

# Railway Age

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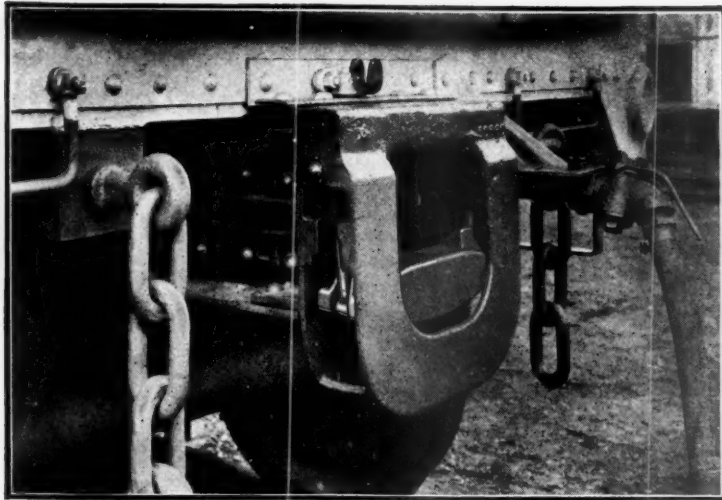
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## RAILWAY AGE

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# Wanted—An Organized, Fighting Minority

The chairman of the Senate Committee on Interstate Commerce and the chairman of the House Committee on Interstate and Foreign Commerce are, from a transportation standpoint, the two most important men in Congress. Senator Couzens of Michigan, who is chairman of the Senate Committee on Interstate Commerce, recently has publicly made two predictions which, if well founded, would be appalling. One of these is that property representing 10 billion dollars out of a total investment of 26 billion dollars in railroad property will have to be scrapped. The other is, in effect, that when the depression ends the common stock of the railroads, having a par value of approximately 8 billion dollars, will be found to have been rendered permanently valueless.

The two predictions mean practically the same thing. In 1911 the railways represented an investment in excess of 15 billion dollars and employed 1,700,000 men. What Senator Couzens means is that the equivalent of the entire investment made in the railways since then is going to be wiped out. Of course, if that is going to occur they will be forced permanently to employ as few, or even less, employees as they are employing now.

### Destruction by Competition Predicted

Senator Couzens makes clear how he believes this permanent destruction of railroad property, railroad investment and railroad employment is going to be accomplished. He said the common stocks "are apparently gone because, during the past years, *the competitive means of transportation have developed rapidly*". He has said elsewhere, "Of course, business will not be suddenly restored; but when it is restored to normal other means of transportation will be so developed that billions of dollars of the existing railroad facilities will not be required. \* \* \* Regardless of their (the Interstate Commerce Commission) decisions, *competition is going to take care of the situation*". In other words, it is the opinion of the chairman of the Senate Committee on Interstate Commerce, after he has for weeks heard testimony regarding the

competition of the different means of transportation, that carriers by water and highway are going permanently to destroy 10 billion dollars of existing railroad investment and property and the employment of approximately 750,000 railway men.

If this enormous destruction of railroad investment, property and employment is going to occur, to what is its destruction going to be due? Contrary to the apparent opinion of Senator Couzens, it is going to be due to absolutely unfair and economically unsound and destructive policies of our federal and state governments. The railroads have afforded for 100 years, and do now and will in future afford the most economical means of inland transportation in proportion to the character and value of the service rendered that has ever existed, exists now, or for years will exist. If the depression should now suddenly end, and general business should become as good as it was in the five years ending with 1929, the railways would speedily be offered as much freight business to handle as they handled then if the state and national governments, by withdrawing subsidies from their competitors, and subjecting all carriers to comparable regulation, would give the railways equality of opportunity in competition with other carriers. So what Senator Couzens predicts, although this is not what he said, is that, by continuing unfair and economically indefensible policies, our federal and state governments intend permanently to destroy 10 billion dollars of railroad investment and property and the employment of 750,000 American citizens.

### Co-Ordination of Movements Needed

Those most directly interested in preventing this enormous destruction of property and employment are Owners of railroad securities.

Officers and employees of railroads.

Manufacturers of railway equipment and supplies and their employees.

These various groups, through numerous and various organizations, are now engaged or proposing to engage, in movements to accomplish an objective of



equal importance to them all; and that is to *get traffic back on the railways*. That is the one thing they all want to accomplish, and which must be accomplished, if the value of railroad securities is to be increased, if railroad employment is to be increased and if the railroad purchasing essential to reviving business and employment in the railway equipment and supply manufacturing industry is to be restored.

In the meantime, there is little co-ordination of the activities of these groups, and they are even fighting among themselves. For example, the railway labor leaders are seeking the establishment of a six-hour day at eight hours' pay at a time when its establishment would cause such an increase in railway operating expenses as would bring early fulfillment of Senator Couzens' prediction.

The accepted political theory in this country is government by majorities. The actual practice is government by organized minorities. The time has come when there should be established co-ordination of all movements intended to hold and get traffic back on the railways, and thereby organize a militant minority in the country as a whole, and in every state and community which will fight with every weapon available and finally overthrow those federal and state government policies which are daily strengthening that competition with the railways which Senator Couzens predicts will be found, after the depression has passed, to have become strong enough to destroy \$10,000,000,000 of railroad property and thereby the employment which without its existence would be forever impossible.

#### Why Labor Leaders Should Lead

The railway labor leaders should take the initiative in bringing about this co-ordination and the formation of this organized and militant minority. They should do so because if they take the initiative, no politician will dare say that it is merely a Wall street movement to save railway securities. They should take it because they represent the only available political force which could make itself feared in Washington and every state capital. They should take it, not with any pretense of "helping the railroads" or for the purpose of using it as a means of trading the railroads out of concessions, but to save and recover the employment of the hundreds of thousands of railway employees who have elected and are paying them to protect and further their interests.

What should this organized and militant minority fight for?

First, to compel those who operate carriers by water or highway to pay the full cost of rendering their service. Facts are available showing that every dollar spent upon inland waterways by the federal government is a subsidy collected from the tax-paying public. There should be a searching investigation made of the costs of truck and bus transportation on the highways borne by the taxpayers in order that similar incontrovertible evidence regarding them may be available. Then there should be a fight waged from

Maine to California and from the Canadian border to the Gulf to destroy every vestige of subsidization of other carriers in competition with the railways.

Second, this militant minority should adopt a definite program for equalizing regulation of all carriers, either by reducing the regulation to which the railways are now subject, or by increasing regulation of other carriers or by both methods. This regulation cannot safely be restricted to service and rates. The regulation of the wages and hours of service of employees of other carriers must either be made the same as the regulation of the wages and hours of service of railway employees, or the wages of railway employees will have to be reduced and their hours of service increased to enable the railways to meet competition.

Third, this organized and militant minority should join the fight in the nation and in every state and community for a reduction of government expenditures and taxation. It is high time that railway labor leaders and employees recognized the fact that present excessive government expenditures are putting railway employees out of their jobs by resulting in excessive taxation of the railroads themselves and by helping to provide those very competing means of transportation which Senator Couzens predicts will destroy two-fifths of all the railroad property in the country and will incidentally destroy permanently a corresponding amount of railroad employment.

#### Perhaps It Would Become a Majority

If this militant minority were organized and got into action, it might soon make the discovery that it had become a majority. There are millions of people in this country who, if the facts were presented to them often and forcibly enough, would find that their interest is the same as that of the proposed organized minority and would join it. Take the farmers, for example. In every rural community railways pay a large part, or the bulk, of the taxes that support schools and local governments. If there is any such destruction of railroad property as Senator Couzens predicts, it will consist principally of the destruction of railway lines in rural communities, and then the farmers who already are suffering from a crushing burden of taxation will have to pay additional taxes to replace those now paid by the railroads. Railways pay taxes and, therefore, lighten the burden of farm taxes in rural communities. Inland waterways pay no taxes, and buses and trucks pay extremely small taxes for the support of government, while both waterways and trucks increase the taxes the farmers have to pay. Perhaps enough farmers and business men would join to make the minority a majority.

A very good friend of the *Railway Age* has written us a note criticising the two editorials entitled "Two Views of the Depression", which appeared in the issue of this paper for May 21, saying, "They lack pointing the way out. The way out should be given, then charge (us) the citizens with the job of doing it." Well, we believe we are now pointing the way out for



owners of securities, railway officers and employees, railway equipment and supply manufacturers and their employees and others who are directly and indirectly interested in the future of the railways. When will we say, as General Foch wired in the midst of the first battle of the Marne, "My center gives way, my right recedes; the situation is excellent; I shall attack"?

## Truck Rates Must Be Controlled

Inch by inch, Congress seems to be approaching the day when it will enact legislation to provide for the regulation of interstate transportation by motor vehicles. Each successive session, in recent years, has had its bus bill or its bus and truck bill, providing for more or less comprehensive regulation of buses and trucks operating in interstate service. The present session has such a bill, now in the hands of the Senate Committee on Interstate Commerce. That it will be approved by Congress either in its present or revised form is doubtful, but it does represent some progress toward adequate regulation of carriers operating on the highways, and is, therefore, worthy of note.

The bill now under consideration provides for a rather thorough job of motor bus regulation. With respect to motor trucks, however, it calls only for a registration or permit system. It requires no regulation of truck rates, and therein lies the bill's greatest fault. Control of truck rates is as essential to orderly transportation as the control of railway rates. Without the control of rates charged for transportation of commerce on the highways, there will be "chaos in industry, timidity in development and dissipation of capital already invested in our railroads," to use the words of P. J. Neff, assistant vice-president of the Missouri Pacific Lines, in his article in the April 30 issue of the *Railway Age*.

In this article, Mr. Neff cited several examples of demoralization in industry, partly or wholly in consequence of inadequate regulation of rates. Another striking example was furnished by F. E. Paulson, vice-president of the Lehigh Portland Cement Company, and the spokesman for the cement industry of the United States as a whole, in his recent statement before the Senate Committee on Commerce concerning the current bus and truck bill. Other examples will be found by the score through even the most casual inquiry into the effects of rate competition in the trucking business, not only upon industrial concerns but upon the truckers themselves. The situation is comparable to that which existed prior to the passage of the Interstate Commerce Act, and it must be corrected by the same means—control of truck rates similar to the control of railroad rates.

Control of truck rates is certain to come. It may be delayed—it probably will be delayed beyond the present

session of Congress—but it is essential to the orderly progress of transportation and commerce and that is a consideration outweighing the selfish interests of any group of its opponents.

## Sound Advice from a Former Commissioner

Writing in the Wall Street Journal, former Interstate Commerce Commissioner Woodlock draws attention to three recent decisions of the Supreme Court which represent victories for the railways. These are the grain rate case, that dealing with the right of the Long Island Railroad to abandon its Whitestone branch, and the Arizona Grocery case.

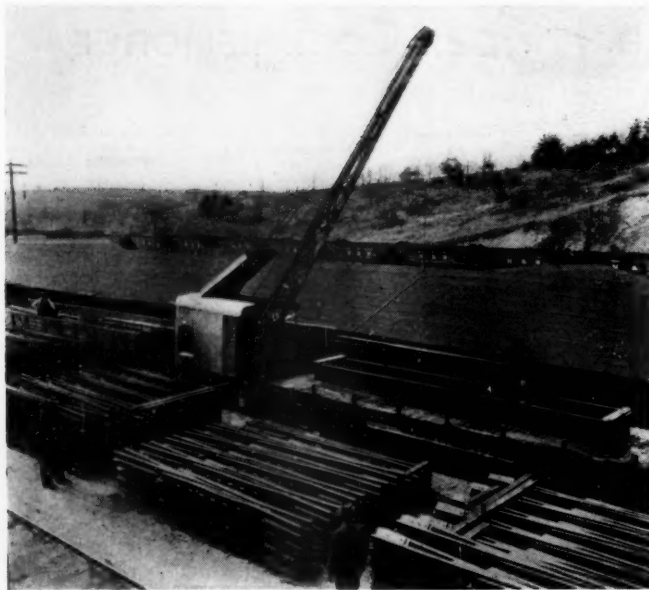
"It has long seemed to this writer," says Mr. Woodlock, "that it would be both helpful and healthy for the Interstate Commerce Commission to be more frequently reviewed in the courts. Its authority is so tremendous and the province in which that power is exercised is so extensive that it is of great importance that its powers should never be exercised save within sure limits of the law and that province. It is fair to assume that the Commission is anxious to avoid transgressing those limits—such at least is this writer's observation at close range—and it is not a case where there is involved a necessary humiliation in reversal by Court decree.

"The attitude of the courts generally toward the Commission and its orders reflects a recognition of its good faith and earnest industry. Perhaps their recent successes may spur railroad counsel to a more aggressive defense of what they think are their rights!"

Mr. Woodlock's proposal is a timely one. It is one thing to submit to onerous conditions after it is clear that they are legal and that a fight against them would be fruitless. It is quite another matter to submit tamely to such conditions when there is a strong likelihood that a successful fight could be waged against them in the courts. The commission's order written by Commissioner Eastman, which called for accounting for depreciation beginning next year, might well be considered in the light of Mr. Woodlock's proposal. The railways have been granted a year's postponement of the effective date of this order, and in the meantime its legality ought to be contested in the courts.

The depreciation order, in our opinion and that of many railroad men, can be considered as little else than meddlesome, dangerous and unwarranted interference into one of the few remaining prerogatives of management. Moreover, in the belief of competent lawyers, this order could be successfully attacked in the courts. We should like to see the railroads follow Mr. Woodlock's suggestion and find out just to what extent they are legally obligated to submit to regulation of this kind.

# Norfolk & Western Cleans Up Roadway Stock



Dipping Frogs at Roanoke to Combat Corrosion

**T**HROUGH the establishment of a central supply yard at Roanoke, Va., the Norfolk & Western is saving approximately \$300,000 a year, by the reduction of its maintenance of way materials stock balance. Prior to April, 1929, when the yard began operation, the railroad's roadway and bridge material stock balance amounted to \$8,572,000. This figure has been cut to \$2,833,000, of which \$774,000 represents the value of crossties and switch timber on hand for seasoning at the timber-preserving plant at East Radford, Va., a reduction of \$1,302,000 in crossties and of \$4,437,000 in track materials, or a total reduction of \$5,739,000.

Previously, maintenance of way materials were stored principally at 23 locations on 7 divisions. When one division ran short of track fastenings, they were transferred from another division. When a roadmaster ordered materials for rail-laying, part of his order would be shipped one day and the remainder spasmodically for several days or weeks thereafter, incurring a loss of time and expense. There was no systematic method of assembling and distributing the various materials and supplies and it was necessary for the railroad to carry on hand more than were actually needed for protection.

## Economical Arrangement

The new system is an improvement over the old method in several ways. One of its most valuable features is its capacity to permit the storing of an adequate supply of materials on a quick turnover basis. Since the entire stock is under the supervision of one man who orders additional materials with knowledge of what past requirements have been, the stock on hand can be kept at a minimum and yet meet the maintenance needs of the entire railroad. Under the plan of

**Five-million-dollar reduction in track and bridge materials facilitated by centralizing supplies at Roanoke**

operation, the entire stock is distributed and replaced in 60 to 90 days.

The new yard is laid out along simple lines, with the materials assembled and piled in such a way that orders can be filled promptly and inventories made without difficulty at any time. Although some time was required to assemble in Roanoke all of the material from the outlying points, other expenses incident to the establishment of the yard were almost negligible. Most of the smaller material is stored in sheds which once served as stock pens. The tracks were already laid and the only new item of equipment purchased for the yard was a 60-hp., gasoline-driven, full-revolving Burro crane. This crane moves under its own power within the material yard limits, pulls as many as eight loaded cars at a time, picks up frogs, rails, etc., and is equipped with an electro-magnet for loading and unloading scrap material.

The yard itself is about 100 ft. wide and 2,000 ft. long. All of the material is piled in units to facilitate inventories. Such material as frogs and switches are dipped in oil to prevent rust and corrosion. Other material exposed to the elements is sprayed with oil.

The new system promotes efficiency and economy in two ways; first, in the salvaging and reclassification of material released from the track, and second, in the shipment of new material for routine track maintenance and rail renewals. When material is taken out of the track during rail renewals, it is classified on the ground as between scrap and relayer material. The scrap goes directly to dealers, while the relayer material, which includes any track fastenings, frogs, switches, guard rails, rail joints, etc., considered fit for further use, is shipped to the supply yard at Roanoke. Here each piece of material is inspected and the items which pass the examination are returned to stock for use in filling future requisitions in regular maintenance work.

## Lost Motion Eliminated

In the other direction, efficiency and economy are achieved by the close co-ordination of the roadmaster's needs with the central source of supply. When the roadmaster needs rails and track fastenings for emergency maintenance, he orders this material on a requisition blank provided for that purpose. This order is approved by the superintendent of the division and also by the general superintendent. It is then forwarded to the central supply yard. To insure that the roadmaster gets what he actually needs, the order is checked against the track plans and material specifications of his particular district. The material is also assembled for shipment. For instance, heel blocks for switches are not shipped to him in parts, but completely assembled with a bent angle bar, pipe nipple, four



nuts and bolts, four beveled washers and four spring washers. When the roadmaster gets the heel blocks, he loses no time and has no difficulty in matching the various parts for the renewal. In addition, every order received in Roanoke is filled complete and made ready for shipment on the same day it arrives. This is done to eliminate extra work-train trips and delay in completing the job for which the order is intended.

One of the greatest advantages of the new system is its adaptability to the requirements of the annual rail-renewal programs, under which new rail is laid in long stretches over the entire railroad. During the rail shipping season, the manufacturers keep in close touch with the Roanoke supply headquarters and advise the officer in charge in advance when each shipment of rail is to be made and its destination. Upon receipt of this information, the supply headquarters immediately instructs the various agents on the line as to the disposition that is to be made of the cars when they arrive. This disposition is based upon the railroad's approved rail-renewal program and the forces authorized at the time the rail is received. The supply yard then loads into cars the required number of frogs, switches, joints, bolts and spikes, and other kinds of track material, to make the renewal as provided in the program. The supply-yard shipment is loaded in such a manner that any material can be unloaded from the cars without disturbing the other contents and is timed to arrive for distribution with the rail, which is shipped direct to save rehandling. The roadmaster then organizes his work train and, in one operation, distributes to his forces all of the rail and accessories needed for the job.

#### Accounting Methods

All track materials are carried in an open account called the roadway and bridge material account. This account has eight major subdivisions, namely, stock at the central yard and stock under the supervision of seven division superintendents. When material is shipped from the central yard, copies of a shipping notice are sent to all concerned. A copy of this shipping notice is used by the stock-record clerk and the

material is transferred immediately from the central yard stock records to the division stock records. This material remains under the supervision of the division superintendent until used.

A daily report system is used for reporting material applied and released. These reports are sent daily to the division superintendent, who prepares monthly statements of the material used and released, divided by primary accounts. These statements are then sent to the roadway and bridge material section of the engineering department, where the prices are applied, extensions made and final statements prepared for the accounting department. The price used for new material is the system average actual cost. Material released is salvaged at approximately 50 per cent of the cost of new material, while the scrap is salvaged at the current market price. Any relayer of material from the central yard is issued at the same figure at which it was released from use.

No store expense is added to new rail shipped direct to the divisions and none is added to the price of material issued through the central yard. The store expense, however, is spread against the various primary accounts to which the material from the central yard was actually charged. New material returned to stock from a division is credited to that division at the same price at which it was originally charged. No material is charged to the various primary accounts until it has actually been placed in service.

So far the operation of the yard has been very economical. During 1931, the cost amounted to one per cent of the total value of the material disbursed from it. To prevent the accumulation of materials on the line, those in charge of the yard make a special effort to have the various division supervisors clean up and ship any surplus material on hand into the yard twice each year. This is generally done just prior to the roadway and bridge-material inventories.

The roadway material yard was established and operates under the jurisdiction of W. P. Wiltsee, chief engineer, and is under the direct supervision of J. R. Sisler, roadway and bridge-material supervisor.



Views of the Central Yard for Maintenance Materials at Roanoke, Va.



# Six-Hour Day Investigation

Representatives of employees dispute  
estimates of increased cost

WASHINGTON, D. C.

**T**ESTIMONY on behalf of the railway labor organizations in advocacy of the adoption of a six-hour day was begun on May 23 at the hearing before Division 6 of the Interstate Commerce Commission in connection with the commission's investigation of the application of the six-hour day principle in railway service. It has consisted largely of rebuttal of the testimony of the railways, concluded last week, in an effort to show that the increased payroll cost on a six-hour day basis would be much less than the \$600,000,000 estimated by the managements, if they would readjust their service to suit a six-hour work period.

As indicating the need for a shortening of the work period witnesses showed the gradual increase in "technological unemployment" in train and engine service during the period ended with 1929, which resulted from the increased "mechanization" of the railroads, partly as a result of efforts to offset the increased cost of the eight-hour day basis, and asserted that railroad operating officers would be able to work out ways of offsetting the increased cost by rearrangement of runs, etc. One also assumed a continuance of the "mechanization" process for another period until it should become necessary to reduce hours again.

Donald R. Richberg, counsel for the Railway Labor Executives Association, made an introductory statement criticizing the railroad contention that the additional expense would be so large as to be practically prohibitive. He said in part:

The employees do not contend that more men can be employed without reduction of their earnings and without increased expense. They do contend that many more men can be employed with a smaller increase of expense than is indicated by the carriers' witnesses and exhibits. They believe that the carrier evidence is designed to show a minimum increase of employment at a maximum expense because of a fundamental misinterpretation of the object of this investigation. We will demonstrate that in every class of service more men can be put to work and increases of individual earnings can be avoided, contrary to the testimony of the carriers.

## Rigid Basic Pay Day Not Desired

These errors (from our point of view) in the carrier computations are increased again by applying the principle of a six-hour day as though it were a rigid basic pay day, although not a rigid work day. This seems to us inconsistent with the clear purpose of the investigation. If, for example, there is a practical need in some classes of employment for employing six men for six eight-hour days it would be more consistent with the principle under investigation to employ seven and one-fifth men for five eight-hour days—or 40 hours per week each without overtime—than to employ the same six men for six eight-hour days, or 48 hours per week with 12 hours overtime. The first application would increase employment 20 per cent and increase expense 20 per cent. The second application frequently favored by the carriers would increase employment not at all, but would increase expense 50 per cent. There is no justification for such a misinterpretation of the Congressional resolution. But this error runs through all the carrier evidence and invalidates a large percentage of their computations.

We submit that the carrier attitude toward the alternative of using man-power or machine-power shows the same disregard for the fundamental purpose of this inquiry. This Nation, like the rest of the world, is floundering in the depths of an unparalleled depression, of which an underlying and persistent cause is the failure of our great industries to ful-

fill their primary obligation to provide a livelihood for the masses of the workers who have invested their lives in these industries. The dominating purpose of this investigation is to find a means to relieve unemployment, to retard the forces that create unemployment. Unquestionably the principle of the six-hour day can be applied so as to counteract influences that produce unemployment. It would be mocking at human misery, jesting at a national calamity, to interpret this principle merely as a means of increasing individual earnings and encouraging the substitution of machine-power for man-power.

H. J. Arries, representing the Brotherhood of Locomotive Firemen and Enginemen, the first witness, submitted an exhibit showing that from 1923 to 1929, which he called the "period of technological unemployment," the total number of engine service employees was reduced from 157,159 to 142,828, based on the middle of the month count for October, while the net ton-miles were increasing from 42,410,000,000 to 47,836,000,000 for October. By February, 1932, the number of employees was reduced to 94,082 and the ton-miles to 21,732,000,000. He was followed by a number of firemen who had been in service many years but most of whom are now on the extra list, who described conditions on their divisions to show how a greater tonnage of freight is now being handled with larger locomotives and faster trains but a reduced number of train crews than in 1916 before the Adamson law became effective. In some instances they testified as to how the runs could be reduced or rearranged by running lighter and faster trains to employ more men on a six-hour basis than are now employed on an eight-hour basis. On cross-examination they admitted that it might cost the railroads more to do this but contended that it would not be necessary to use as much overtime as shown by the railroad witnesses.

W. Jett Lauck, appearing as a witness for the B. of L. F. & E., submitted a series of exhibits showing the experience since the passage of the Adamson law, including some extracts from statements by railway officials in 1916 relative to the method of application and the cost of an eight-hour day, indicating that it would be cheaper for the railroads to pay the increased overtime than to change operating methods so that men would work only eight hours. Counsel for the railroads objected to this but Commissioner Eastman overruled the objection, saying that one purpose of the hearing is to see what lines of investigation should be pursued. An exhibit entitled "Technological Unemployment in Road Freight and Yard Services" included the following:

## Technological Unemployment

Total service hours (opportunity for employment) of train and engine crews in road freight and yard services on Class I railroads have been drastically reduced, both in the 1921 depression and the current one, and in both periods, wage rates have also been cut. Piece workers have surely borne the full, uncushioned force of both these depressions. Furthermore, during the intervening years of prosperity, 1922-1929, during which the volume of business done by the railroads increased, the field for employment of train and engine crews has been steadily chiseled away by increases in railroad efficiency (greater train loads and faster train speeds). The explanation of these reductions in the field for employment is heavier trains running at faster speeds, thus requiring fewer

train-hours to move the tons of freight over the miles of track. The effect on the operating forces has been a constant increase in *Technical Unemployment*.

During the years of prosperity, 1922-1929, the volume of business done by the railroads increased 31.0 per cent. This substantial increase in ton-miles was moved by an increase of only 6.2 per cent in employment (hours paid for). In 1922 it required 1867.2 hours of employment to move a million ton-miles of freight, but in 1929, the same task required only 1514.6 hours, a decrease of 18.9 per cent. If the comparison be made for the period 1923-1929, the reduction in employment is still greater. During this period, ton-miles increased 7.6 per cent, but employment decreased by 92.2 million hours, or 11.0 per cent. The resultant of these divergent trends is a decrease of 17.3 per cent in hours per ton-mile.

### Increased Railroad Efficiency

A study of operating statistics shows that the average speed of freight trains has increased, as has also the average trainload. As a consequence, the product of the two, ton-miles per freight train-hour, which is the measuring unit of the momentum of the freight movement, shows quite material improvement. The heavier the trains and the faster they run, the greater the ton-miles per freight train-hour. From 1922 to 1929, the average trainload increased from 676 tons of freight to 804 tons, an increase of 18.9 per cent. Furthermore, the average train speed increased from 11.1 to 13.2 miles per hour, an increase again of 18.9 per cent. The resultant of these two upward trends is an increase in ton-miles per train-hour from 7479 to 10,580, or 41.4 per cent. This increase in railroad efficiency was accomplished by steady, year by year, improvement, rather than by fluctuating increases and decreases.

An exhibit on the reduction of overtime, 1918-1931, included the following:

### Reduction of Overtime, 1918-1931

Overtime made by train and engine crews in road freight service and yard service on Class I railroads, by whatever unit measured, has been signally reduced from 1918, immediately subsequent to the adoption of the Adamson eight-hour law and prior to the inauguration of punitive rates for overtime, to 1929, the last normal year prior to the current business depression. This reduction in overtime has progressed without regard to business prosperity or depression. During the depressions of both 1921 and 1931 when the volume of business of the railroads declined drastically, the amount of overtime made by these workers likewise declined drastically. And during the years of prosperity 1922-1929 when the volume of business done by the railroads was above normal, overtime made by these workers declined to a marked degree, nevertheless.

From 1918, which was prior to the inauguration of punitive rates for overtime, to 1929, the last normal year before the current depression, hours of overtime worked by full train and engine crews of road freight and yard services of Class I roads decreased 57.7 per cent; and the percentage that hours of overtime bear to total service hours decreased from 16.8 per cent in 1918 to 8.2 per cent in 1929, a decrease of 51.2 per cent. That is, more than half the actual number of hours of overtime have been eliminated. In 1918, slightly more than 10 minutes of overtime were used for every hour of total time, but in 1929, less than 5 minutes of overtime were used.

These great decreases in overtime were made in spite of a quite considerable increase in the amount of business done by the railroads. During this interval, freight traffic increased from 399.6 billions of ton-miles in 1918 to 492.3 billions in 1929, an increase of 23.2 per cent. The resultant of these divergent trends is a decrease of 65.8 per cent in the number of hours used by the railroads for every million ton-miles of freight transportation. On this basis, the railroads have eliminated virtually two out of every three hours of overtime from 1918 to 1929. The percentage reduction of overtime in road freight service has been about the same as that in yard service during this interval.

### Further Mechanization Anticipated

On cross-examination by Jacob Aronson, general counsel of the New York Central, Mr. Lauck said he was not competent to give an estimate of the cost of the six-hour day but that in his opinion the "ultimate cost would be nothing," although it would "take some time to work it out, as it did with the Adamson law."

He said that no operating conditions can be considered as static and that in some instances the increased wage cost per hour could be offset by further mechanization. The operating officials would have to determine in what conditions the increased cost could be offset by the employment of additional capital to increase facilities.

After Mr. Aronson had got him to admit that to the extent the efforts to offset the cost succeeded there would be no increase in employment, Mr. Lauck said there would at least be a period of transition and increased employment "maybe for another 16 years." "The shock of mechanization can only be lessened by a shorter work-day," he said, "and to maintain purchasing power it is necessary to increase rates of pay." Mr. Aronson remarked that "rates of pay" would not be the only rates affected. The increased cost would be an "undoubted incentive to further mechanization," Mr. Lauck said, adding that "we are just on the threshold of inventive improvements."

### Mileage Limitations

D. B. Robertson, president of the B. of L. F. & E., said that during the depression his organization had worked out agreements on many roads for a reduction in the mileage limitations of firemen in order to spread employment among as many men as possible by reducing the earnings per man, but that it is absolutely essential to provide employment for men who have been displaced. He said that the conditions described by the firemen on their particular divisions were typical and that the number of opportunities for enginemen have been reduced by electrification, increased train speed, and in other ways. The six-hour day can be worked out so as to avoid increased overtime, Mr. Robertson said, by shortening some runs, or by reducing tonnage, or by finding additional ways to eliminate delays by rearranging service. The railroads have always been able to work out ways of offsetting increases in wages and he saw no reason to believe that their officers had reached the limit of efficiency. The six-hour day would cost some money, he admitted, although the organizations had prepared no estimates as to the cost, but he questioned the increased cost indicated by the railroad exhibits based on time slips because the character of the time slips would be changed.

### Robertson Willing to Consider Changes in Rules

When Commissioner Eastman asked if he had considered any changes in the present rules under which the cost of applying a six-hour basis could be reduced, Mr. Robertson said that some rules could be eliminated and that "we are willing to take every rule in the schedules and sit down with the railroads and try to work out a basis."

### Whitney Urges Social Reform

A. F. Whitney, president of the Brotherhood of Railroad Trainmen, described the agreements which the organization had made with 109 railroads for a limitation of the mileage and hours made by trainmen per month, for the purpose of spreading the available employment among more men, which he said had resulted in returning about 9,500 men to work. He expressed the opinion that a six-hour day would greatly improve operation and service to the public and said that it could be brought about without a large increase in overtime and by substantially limiting the work-day to six hours by re-establishing the old terminals and shortening runs as well as by speeding up trains. He said that even during the period of prosperity hundreds of men in his organization had been thrown out of em-



ployment and so he had begun in 1929 a campaign for the establishment of a shorter work-day. Continuing, he said in part:

We are convinced "that our request for shorter work hours in the railroad industry is justified by the increased efficiency of the railroad employees. We contend that railroad employees in the past have not been greatly compensated for their greatly increased productivity. We believe that the increased burdens placed upon railroad employees through modern methods of railroad operation justify shorter work hours. We maintain that proper living standards and the opportunity for employment for thousands of unemployed railroad workers demand shorter hours of work in order than these employees, who have given years of faithful service to the railroads, will not be required to live in penury because of modern methods of efficiency. We are convinced that shorter hours constitute an industrial reform vitally necessary to the public welfare, and that the added cost, not nearly so great as might be supposed from a superficial examination of the facts, is justified by the correspondingly larger increase in the productive efficiency of the worker.

We feel that the adoption of such a program is the only social and industrial reform which will solve our economic difficulties and restore prosperity. We believe that the adoption of shorter work hours in the railroad industry not only will pay for the increased wage cost, but that it will, through the improvement of all industry, return to the railroads such a volume of traffic, both freight and passenger, as will pay high returns, over and above the added wage cost. We believe the railroad industry would also gain important benefits as a result of establishing a much higher morale among railroad employees, which would conserve materials and eliminate waste. We believe, that, in this age of great productive efficiency, shorter hours of work not only afford a sound economic reform necessary to compensate for this increased efficiency of the worker, but that it is a sorely needed social reform.

#### No Definite Cost Estimates

On cross-examination by Mr. Aronson he said the organizations had not attempted to estimate the cost because they have no control over operations and an estimate would not be worth much unless it was known that everything possible would be done to readjust operations accordingly. He said he had estimated roughly that a six-hour day in train and yard service would not increase the cost more than 10 to 13 per cent. Asked if he had noticed any tendency toward the six-hour day in trucking and inland waterway service he said he had not, "unfortunately." Asked if the speeding up of trains had not enabled the men to earn their wages in less time he said it had but it had also moved terminals and destroyed property values. He was reminded that he was proposing to move terminals again, but he said the railroads have many terminals which they had when divisions ranged from 57 up to 125 miles and before they increased the length of divisions up to as much as 300 miles. In discussion of the mileage limitation he said that in October, 1930, all the trainmen on one division out of Chicago averaged over 6,000 miles for the month, which he referred to as 60 days' work. He said that meant working every day but he did not know how many hours a day.

T. S. Jackson, general chairman of the B.R.T. on the Illinois Central, testified that since the Fall of 1929 a total of 2,231 train and yard employees on that system had been taken entirely out of service as a result of increasing tonnage and train lengths, and the performance of switching by road crews.

On petition of the Railway Labor Executives' Association, the commission has broadened the scope of the investigation to include employees of express and sleeping car companies.

J. G. Luhrsen, president of the American Train Dispatchers' Association, said that as far as dispatchers are concerned a six-hour day would surely improve op-

eration and make the service better and safer at only a small increase in cost, which would be fully justified by the results. Two-thirds of the dispatchers, he said, work during some part of the night and a shorter work-day is necessary because of the conditions under which they work. No dispatcher, he said, should be required to use both telephone and telegraph systems because the use of both offers an opportunity for distraction which creates a hazard.

## Concentration Hydrometer Is Improved

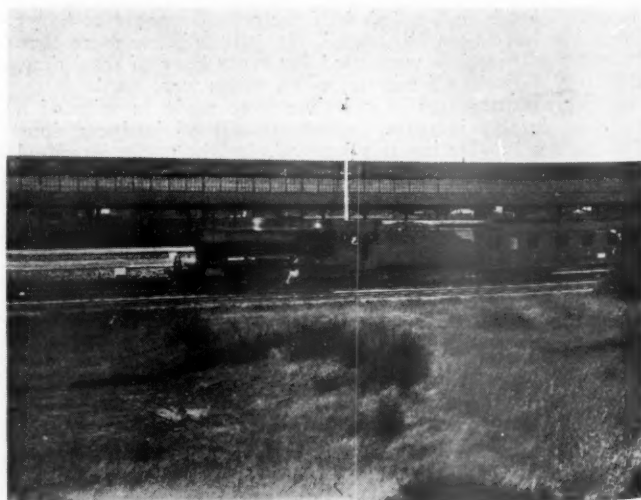
THE Dearborn Chemical Company, Chicago, is now introducing a concentration hydrometer for determining the total dissolved solids in boiler water, which has several distinctive points of difference and improvement over the instrument described on page 608 of the *Railway Age* issue of April 9.

This new instrument consists of but one float and one tube, all scales being enclosed in the float, a feature covered by patent application. The hydrometer is quick acting because a mercury thermometer is used, the space between the tube and the float permitting the latter to rise more rapidly. The float is provided with substantial projecting knobs to prevent friction of the float against the tube.

This novel method of construction has a number of advantages, including compactness, absence of special care required in operation and ability to stand rough handling because of the single tube design. Any danger of float stem breakage is said to be eliminated. The operation is designed to be simple so that readings can be taken in the cab of a moving locomotive.

The instrument may be easily taken apart for cleaning, and the rubber bulb need never be removed, the float being withdrawn from the jar or tube by removing the lower rubber fitting. The outer rim of this fitting is hexagonal in shape, which prevents the instrument from rolling when at rest. The float can be removed from the assembled instrument and operated in a separate container if desired.

\* \* \*



The Station at Amersfoort, on the Netherlands Railways—Light 4-6-0 Express Passenger Locomotive in the Center



# Railways Face Shortage of Ties

Greatly reduced production and depleted stocks  
reported at Memphis convention

**R** EPORTS of drastic declines in crosstie production and stocks and the inauguration of a movement to compile statistics of stocks of ties in the possession of the producers and railways were the outstanding developments at the fourteenth annual meeting of the National Association of Railroad Tie Producers at Memphis, Tenn., on May 17-18. This meeting was attended by more than 100 producers and railways officers interested in tie selection and use. The sessions were presided over by E. E. Pershall, president of the organization and president of the T. J. Moss Tie Company, St. Louis, Mo. Action was initiated at the meeting to change the name of the Association to the Railway Tie Association, in the interest of simplicity. The association now enrolls 38 active producing companies which provide the very large proportion of the total commercial crosstie production.

At this meeting definite action was taken looking towards the compilation at regular intervals of statistics showing the number of ties on hand with the producers and also the railways. It was shown that such information would eliminate much of the uncertainty now confronting producer and purchaser alike in formulating their policies. It would also greatly reduce the wide fluctuations in prices that characterize alternate periods of over and under supply. It is hoped to get this organization functioning during the current summer.

The following officers were elected for the ensuing year: President, S. S. Watkins, the Joyce-Watkins Co., Chicago; first vice-president, B. N. Johnson, B. Johnson & Sons, Richmond, Ind.; second vice-president, D. C. Jones, Ayer & Lord Tie Co., Chicago; secretary-treasurer, Roy M. Edmonds (re-elected), St. Louis.

In an address on Tuesday, Elmer T. Howson, western editor of the *Railway Age*, discussed the railway outlook and emphasized the direct interest which the tie producers have in the proper solution of the problems now confronting the roads. He showed also that the railways used more than \$70,000,000 of ties last year, spending \$47,500,000 for this commodity and securing the remainder by drawing down their stocks. He emphasized particularly that in this period of sub-normal demand, it is possible for the producers to adhere in all respects to the specifications and to secure ties that meet these requirements in full. "There is no excuse today," he said, "for a tie producer offering to a railway a tie that does not comply fully with the specifications. Any such ties are the result of carelessness or deliberate intent. Railroads and producers alike should utilize the present as an opportunity to bring their methods up to the specifications in all respects and to so intrench these practices as to preclude the possibility of any departure therefrom when the demand returns to normal."

In an interesting address on the function of a tie contractor, Roscoe C. Hobbs, president of the Hobbs-Western Co., St. Louis, Mo., summarized the service which such an organization can render as follows:

1. It enables a railroad to limit its forces to a purchasing officer and an inspection staff.

2. It enables a road to budget its expenditures more accurately, for it is necessary only for it to fix its requirements as the price is set.
3. It stands as a buffer between the road and the small producer, absorbing such ill will as arises because of inspection difficulties.
4. It creates revenue freight traffic by shipping excess ties to other roads whose line production does not meet their requirements.
5. It finances tie purchases from the time when they are made until they are used.
6. It maintains crosstie production through periods of depression to a greater extent than a railway is able to when buying direct.

In a paper presented on Wednesday morning, E. A. Hadley, chief engineer of the Missouri Pacific, presented a mathematical analysis of the comparative values of ties of various sizes. This paper is presented in abstract in a following column.

## Comparison of Different Species

Dr. Hermann Von Schrenk, consulting timber engineer, St. Louis, Mo., outlined bases for the comparison of different species of timber for use as tie supply. Setting forth the three principal requisites of tie timber as (1) strength, (2) durability and (3) physical characteristics, he stated that most woods possess adequate strength and can be given requisite durability through treatment. In such physical characteristics as tendency to checking, lack of hardness and limited resistance to abrasion, he reported many timbers deficient. Such differences as prevail in tie timbers today lie in these characteristics, he said. Records of extensive tests on the Burlington, the New York Central and other roads show that mechanical failures greatly outnumber those due to decay. Developments are at hand, however, Dr. Von Schrenk stated, which will go far to overcome the mechanical deterioration, and extend the use of the softer woods and likewise extend the life of treated hardwood ties. In conclusion, he rated the more common tie timbers in the order of preference at present as follows: (1) Black gum, (2) red oak, (3) sap beech, birch and maple, (4) the pines, (5) Douglas fir. In making this selection, Dr. Von Schrenk recognized that, for any individual road, this rating is influenced by the availability of the various woods.

In discussing this address, several members expressed interest in the high rating given black gum. In defense of this rating, C. H. Mitchell, L. & N., stated that his road has used this wood with success for years and has found that it gives better service than oak, especially on their southern lines. It is his practice to limit the heart wood to a maximum diameter of four inches and to reject ties sawed through heartwood. L. W. Kistler, St. L.-S. F., reported satisfactory service with red gum ties produced on that road east of the Mississippi river.

## Production Statistics

One of the constructive activities of this association is the preparation of reports of the status of tie production, stocks and demand by the district directors. In presenting the report for the Northeastern district, Frank W. Cherrington (Jennison-Wright Co., Toledo,

Ohio) advised that production in this area during 1931 approximated 25 to 30 per cent of that for 1929. The stocks of treated ties at commercial plants are now somewhat above normal. While some of the roads have smaller stocks than in 1929, it would appear that their stocks are adequate to meet the present reduced demands, although they would not be sufficient for normal renewals. Some of the railroads in this area are maintaining their full maintenance programs in so far as tie renewals are concerned. While prices are very low, it is not expected that the roads will enter the market for a sufficiently large number of ties to force any sudden increase. Sentiment is growing in favor of a uniform inspection in strict accordance with A.R.E.A. specifications.

In the Southeast, F. P. Dabolt (Tennessee Tie Co., Memphis, Tenn.) reported that production in 1931 did not exceed 25 per cent of that for 1929, with shipments about 30 per cent and stocks on hand about 40 per cent of those two years ago. Some roads have all of their 1932 requirements on hand, while others have far less than a normal supply and the average stocks for all of the roads in this area is believed to be not more than 50 per cent of normal. Treating plants in this territory are operating at 30 to 40 per cent of capacity, with stocks approximating 40 per cent of normal.

In the North Central area, B. A. Scott (Scott Tie Co., Detroit, Mich.) reported production varying from 15 to 75 per cent of that in 1929, with railway stocks sufficient only to meet present reduced demands and with subnormal stocks in treating plants.

J. A. Tiller (J. A. Tiller & Son, Little Rock, Ark.) reported that in the South Central district, 1931 was a period of marked inactivity with greatly reduced demands for ties and with relatively small stocks in the hands of the producing companies. Neither production nor shipments exceeded 25 per cent of normal. Stocks at the treating plants are similarly subnormal, practically all the ties in the yards being seasoned ready for treatment and practically no green ties coming in. Conditions in this area are such that close co-operation between the producers and the railways will be necessary to prevent prices from getting out of hand and inspection being broken down.

On the Pacific Coast, E. R. Wade (Charles R. McCormick Lumber Co., San Francisco, Cal.) reported that purchases during 1931 were from 15 to 20 per cent of normal, with prices declining to the point where special grades are selling for less than half the prices of five years ago. The exportation of ties has practically ceased. Many of the mills that have previously operated on tie business have closed down, while others which have previously concentrated on commercial business have turned to ties. The situation as a whole is very unsatisfactory.

## Is the Large Tie Cheapest?

By E. A. Hadley\*

In the choice of tie sizes a railroad should not confine its attention to beam strength or stress considerations, nor should the producers' problems be neglected. The best ties are those for which the sum of all yearly maintenance costs will be the lowest, and full consideration of the subject will usually prove that all five sizes of ties should be taken. If only the larger ties are accepted, the producer must charge more for these because, in order to produce ties economically, he must get out the smaller ties at the same time that the larger

ones are made and must have a market for the small ties. The problem of both the producers and the consumer of ties is to so adjust the price scale for the five sizes as to cause all five sizes to move in proportion to their natural production and to give the railroad user approximately equal value in terms of yearly maintenance costs.

Why is a large tie better than a small one, and how much more is it worth? These are most difficult questions to answer. We know that a tie is called upon to perform certain more or less related functions: (1) It must tie the rails together, or hold the gage, hence its name; (2) it must hold the rail fastenings securely; (3) it must permit maintenance of line and surface, affording resistance to movement in the ballast and at the same time admit of adjustments in line and surface necessitated by the development of inequalities in the support of the subgrade and ballast; (4) it must act as a beam (or, really, as two beams) to spread the load from the rail over as much area of ballast as possible.

Assuming that all of the ties are at least of Size 1, there is not a great deal of choice as to size for the first three of these necessary functions. A small tie will hold the rail and maintain gage about as satisfactory as a large one; the advantages of the larger ties are largely on account of function No. 4. As between larger and a small tie, the larger one is of greater value in spreading the load over as great an area as possible, not only because it has more square inches on its bottom but because it is stronger as a beam. We know that the strength of a beam varies as the square of the depth, so that a 6-in. tie is a little less than three-fourths as strong as a beam as a 7-in. tie of the same width and kind of wood. This fact gives us one measure of the relative value of Sizes 4 and 5 as compared with Sizes 1, 2 and 3. We also know that beam strength varies directly as the width of the beam and we therefore conclude that a Size 4 tie is eight-ninths as strong as a Size 5 tie. The several sizes thus compare as to beam strength as follows:

Size 5	100 per cent
Size 4	89 per cent
Size 3A	78 per cent
Size 3	66 per cent
Size 2	57 per cent
Size 1	49 per cent

These beam-strength comparisons are for rectangular ties; of course, the tie with rounded sides is somewhat stronger, but as the extra wood of the rounded side tie comes near to the neutral axis, it has lesser effect on the beam strength, and the relative strengths of sawed and hewn ties are therefore approximately shown by this tabulation. If the beam strength were the only consideration, we might then fix the price of the Size 5 tie at \$1 and pay 89 cents for Size 4, 78 cents for Size 3A and so on down. But beam strength is not the only consideration, nor must we entirely neglect the cost to the producer while we are considering the value to the user. It takes more than 49 per cent of the Size 5 labor to get out a Size 1 tie, and stumpage, haul, taxes, losses and other producer costs are not in these proportions.

The width of the tie determines the number per mile which are necessary to give the same support on the same depth of ballast and with the same spacing between ties. The latter is usually fixed somewhat by the requirements of tamping. So, if we consider width alone, we find the comparison to be as follows:

Size 5	100 per cent
Size 4	89 per cent
Size 3A	78 per cent
Size 3	66 per cent
Size 2	57 per cent
Size 1	49 per cent

\* Chief Engineer, Missouri Pacific, St. Louis, Mo.



If we attack the problem from the standpoint of board feet in the tie, here is what we find:

Size 5	100	per cent
Size 4	89	per cent
Size 3A	78	per cent
Size 3	76	per cent
Size 2	67	per cent
Size 1	57	per cent

And, if we consider the least diameter of log, which will produce the different sizes, our scale is as follows:

Size 5	11.4 in.	100 per cent
Size 4	10.6 in.	93 per cent
Size 3A	9.9 in.	87 per cent
Size 3	10.0 in.	88 per cent
Size 2	9.2 in.	81 per cent
Size 1	8.5 in.	75 per cent

The total cost of the producer, including the stumpage, manufacture and haul, varies so much with local conditions, that average costs can hardly be given. However, the haul is somewhat in proportion to the board feet in the tie and the other costs are somewhat in proportion to the size of the tree from which one tie per section can be made.

Any combination of the scales suggested to give relative values must be purely arbitrary. Without any idea of showing relative importance of the several considerations I have combined beam strength, width, board feet and diameter of log, giving each equal weight, with the following result:

Size	Beam Strength	Width	Based On Board Feet	Dia. Log	Simple Average
5	100	100	100	100	100
4	89	89	89	93	90
3A	78	78	78	87	80
3	66	89	76	88	80
2	57	78	67	81	71
1	49	67	57	75	62

It will be noted that this simple average scale does not differ greatly from customary prices where the Size 5 price is \$1. As pointed out, however, the combination is purely arbitrary and is merely suggestive of a method which may aid in the problem, although in actual practice the relative demands for the several sizes will fix the prices.

I wish to point out one other very important fact which is frequently overlooked. This fact is that the first cost of a tie which is later treated is usually less than half the cost of the same tie in track. For example, a Size 3 tie may be delivered on the right of way for 50 cents. To this cost must be added:

Inspection and loading, say	\$0.05
Haul or freight to treating plant, say	.20
Treatment, say	.45
Haul from treating plant, say	.20
Distribution by work train, say	.05
Insertion in track, say	.45
	\$1.40

This \$1.40 added to the right-of-way cost gives a total cost of \$1.90, or nearly four times the right-of-way cost. A Size 1 tie under similar conditions would cost, say, 35 cents on the right of way and about \$1.60 in track. Comparisons as to annual renewal costs should be on the basis of the total cost in track for otherwise the result may be misleading. In the example above, if we take the life of the Size 3 tie as 20 years, the annual renewal cost with interest compounded at six per cent is about 16½ cents, using the total cost, and about 4½ cents, using the 50 cents right of way cost. To give equal yearly costs, the Size 1 tie must last about 16 years if we base our computation on the cost in track and only about 10 years if we consider only the right of way cost.

Discussion

In discussing this paper, several tie producers endeavored to ascertain from railway men who were present why different roads buy only ties of certain sizes. In reply, this variation in practice was attributed in

part to differences in local conditions as to traffic, grade and curvature, etc., and in part to adherence to practices of long standing. W. J. Burton, M.P., also called attention to the importance of a road taking proportionate quantities of ties of all the various sizes for, in endeavoring to make the larger sizes, a producer of necessity makes also ties of the smaller sizes and unless he can sell them, he must raise the prices of his salable ties accordingly. The discussion also showed the lack of value of the excess timber in ties with rounded sides, especially when shipped to off-line roads by reason of the added freight and increased cost of treating this additional timber.

Annual Meeting of Claim Agents Held at Louisville

THE employment of every available means to eliminate railroad crossing accidents is warranted by the dollar and cents savings alone if one considers the potential average value of each crossing accident, and multiplies that value, whether it be \$1,000 or \$10,000, by the 1,811 fatalities and 4,657 injuries occurring in 1931, according to H. A. Rowe, claims attorney of the Delaware, Lackawanna & Western, at the annual meeting of the Association of Railway Claim Agents at Louisville, Ky., on May 18.

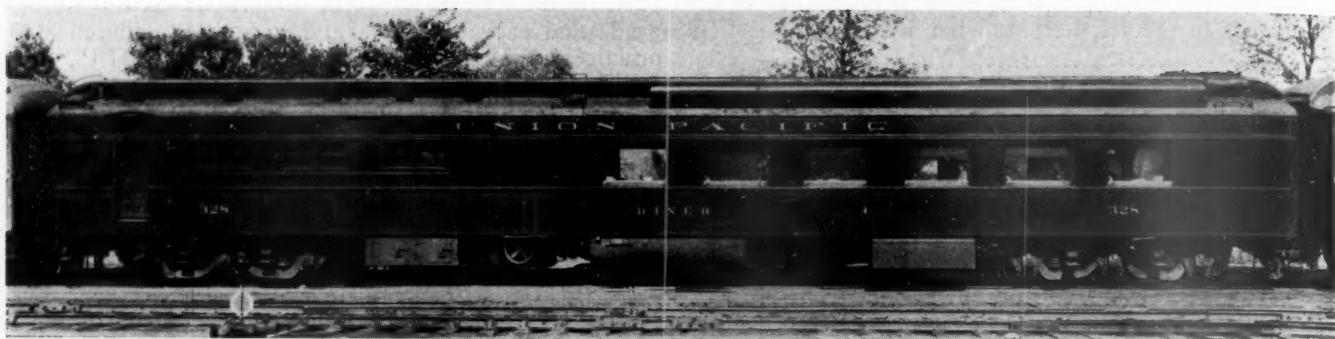
The meeting this year, which was presided over by Vice-President Frank Hruska, chief claim agent of the New York Central, owing to the illness of President Frank R. Haney, general claim adjuster of the Canadian Pacific, was confined to one day in contrast to the usual three-day meeting. Besides the regular order of business, the program included an address by Mr. Rowe on How the Claim Agent Can Assist in the Prevention of Crossing Accidents, another by H. W. Willen, chief clerk in the personal injury department of the Louisville & Nashville, on The Claim Agent During Times of Depression, a third by E. W. Sprague, assistant general claim agent of the Illinois Central, on Publicity in Connection with the Handling of Claims and Litigation, and a fourth by F. D. Fauser, general claim agent of the Wabash, on The Ideal Grade Crossing Investigation. The next annual meeting will be held at Chicago on June 21, 1933.

Officers elected for the ensuing year are: President, H. L. Dunham, general claim agent of the Chesapeake & Ohio, Richmond, Va.; vice-presidents, Frank A. Hruska, chief claim agent of the New York Central, Cleveland, Ohio; Herbert A. Rowe, claims attorney of the Delaware, Lackawanna & Western, New York; and W. R. Sherman, general claim agent of the Spokane, Portland & Seattle, Portland, Ore.; and secretary, H. D. Morris, district claim agent of the Northern Pacific, St. Paul, Minn., re-elected.

Mr. Rowe reported a further reduction in grade crossing accidents, fatalities and injuries in 1931, the reductions, as compared with 1930, being 15.52 per cent, 10.35 per cent and 15.59 per cent, respectively. Accidents totaled 4,100 in 1931, as compared with 4,853 in 1930, while the number of persons killed decreased from 2,020 in 1930 to 1,811 in 1931, and the number of persons injured from 5,517 in 1930 to 4,657 in 1931.

Coincident with this reduction, the number of motor vehicles registered in the United States num-





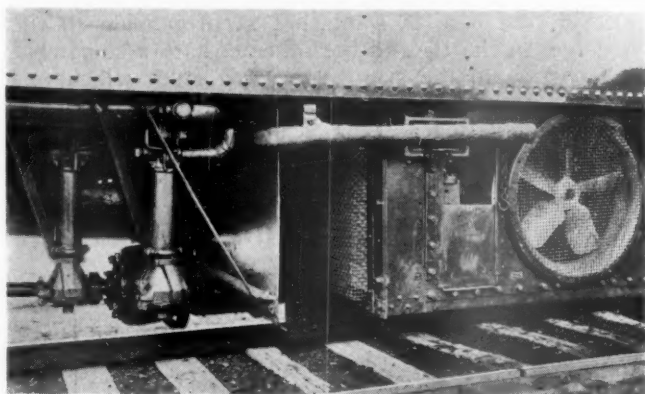
One of the First Union Pacific Dinners Equipped with the Pullman Car & Manufacturing Corporation's New Air-Conditioning System

bered 25,814,103 as of December 31, 1931, a reduction of 281,178, or 2.8 per cent below the previous year. Gasoline consumption during the year increased 13 per cent, indicating a greater use of the automobile than in the previous year. The outstanding accomplishment of crossing accident reduction, he said, can be better grasped when we note that motor vehicle fatalities on streets and highways which in 1922 amounted to 13,676, were increased by 18,913 in 1931, or 139 per cent, as compared with the increase of 1 death at crossings in the same 10-year period.

Mr. Sprague recommended the dissemination of information which will acquaint the public with the manner in which the damage-suit lawyer and damage-suit doctor secure business. There is a publicity, he said, connected with the nefarious damage suit business which is an anathema to the damage-suit lawyer and which will make him hunt cover quicker than anything else and that is newspaper or periodical stories of how he really plies his trade, secures his business and deals with his clients. He does not care to have it advertised that he employs runners who take advantage of clients by misrepresentation, the promise of enormous rewards, the influence of subsidized friends of the injured, stories of fictitious recoveries and the aid of unscrupulous and unethical doctors. Mr. Sprague also described a campaign being conducted by the Herald and Examiner of Chicago since May 1 designed to show up the ambulance chasers, repeaters and perjurers who may be classed as racketeers and who prey upon the autoists who are in any way involved in accidents on the streets of Chicago and the highways of Cook county.

CUNARD PIER No. 54, North River, New York City, destroyed by fire on May 6, at a loss of \$2,000,000 is the latest example of serious pier and wharf fires along waterfronts. The reports state that the fire originated in under-floor support beams, beneath the boilers. There has been a considerable list of pier fires traceable to this origin. Commenting on this disaster, the Railroad Insurance Association, (80 Maiden Lane, New York) advises all railroads to make an immediate examination of the structural conditions surrounding the boilers on every pier owned. Requirements adopted by the National Fire Protection Association and the National Board of Fire Underwriters in 1931, for Pier Construction, specify protection and insulation from boilers used for power and heating, which requirements should be rigidly observed, regardless of the expense, if future fires from this cause are to be avoided, the statement adds.

Other lessons of this fire, it continues, are to install trap doors in decking to enable better approach to under deck timbers, and that employees be instructed to turn in an immediate alarm to City Fire Department, on discovery of a fire.



The Electric Speed Control, Compressor and Air-Cooled Condenser on the Union Pacific Air-Conditioned Diner

## Air-Conditioned Dining Cars for the Union Pacific

THE Union Pacific has announced the inauguration of air-conditioned and air-cooled dining cars for its San Francisco Overland Limited and Los Angeles Limited trains. Fifteen Union Pacific diners, four Chicago & North Western diners and six Southern Pacific diners are being equipped with the system of air conditioning developed by the Pullman Car & Manufacturing Corporation. Eight additional Southern Pacific diners will also be equipped with this same system of air conditioning, which supplies clean air, at the correct relative humidity and temperature for maximum comfort. The air-conditioning equipment installed is practically identical with that used in the cars for the Chesapeake & Ohio George Washington train, described in an article beginning on page 718 of the *Railway Age* of April 30.

In addition to the Union Pacific cars already mentioned, this road is equipping three other diners with the Carrier system of air conditioning which depends upon the production of a vacuum by the use of a steam jet, resulting in the evaporation of water, and thus producing the cooling effect as described in an article beginning on page 398 of the *Railway Age* issue of September 12, 1931.

"HOLIDAY SEASON" tickets, providing unlimited rail travel within a specified area for an entire week at costs varying from \$1.80 to \$3.60, third class, and from \$3.60 to \$4.80, first class, were placed on sale by each of the four major British railways on May 1.

# Railroad Lubrication Discussed at A.S.M.E. Conference

Equipment manufacturers, oil producers and railroad engineers decide to investigate and recommend program of research on railroad lubrication

THE problem of railroad lubrication, especially from the standpoint of improvements to the modern steam locomotive, rail-motor car, and freight car, was discussed at an informal conference, sponsored by the Railroad Division and the Sub-Committee on Lubrication Engineering of the Petroleum Division, American Society of Mechanical Engineers, which was held in the Engineering Societies building, 29 West Thirty-Ninth street, New York, Friday, February 19. Eliot Sumner, assistant to the general superintendent of motive power, Pennsylvania, Philadelphia, Pa., presided. C. M. Larson, supervising engineer, Sinclair Refining Company, New York, lead the discussion of the problems from the viewpoint of the lubrication engineer; H. E. Brunner, chief engineer, SKF Industries, New York, discussed the problems of lubrication from the standpoint of the design of locomotive roller bearings, and C. E. Barba, mechanical engineer, Boston & Maine, North Billerica, Mass., spoke on the problems of lubrication from the standpoint of railroad operation.

Practically all of the discussion centered around a written paper presented by Mr. Larson, an abstract of which is included in the report. Mr. Barba's remarks were somewhat in the nature of a rebuttal of the points brought up by Mr. Larson. Mr. Brunner's discussion of roller bearings was further elaborated on by T. V. Buckwalter, vice-president, Timken Roller Bearing Company, Canton, Ohio. At the suggestion of William F. Parish, consulting lubrication engineer, New York, a resolution was adopted recommending that a committee be appointed from the Railroad and Petroleum Divisions to investigate and recommend a program of research on the problem of railroad lubrication.

## Engineering Problems of Locomotive Lubrication

By C. M. Larson

In the days when railroad equipment lubrication contracts were made on a mileage guarantee basis, the gallonage was controlled mainly by one oil company. The types of equipment, as well as lubricants, were standardized and few. Heavy oils were sparsely furnished to reduce costs of lubrication to a minimum. Repairs and fuel costs were carried in separate accounts and were not thought to be inter-related with lubrication. Hot-box records on freight train cars were considered excellent if they exceeded 50,000 miles per hot box and 100,000 miles for passenger cars.

Since then car journal bearings and methods of packing boxes have changed but little, although the mileage per hot box, both for passenger- and freight-train cars, has increased many fold. Steam locomotives have become much larger as indicated by tractive forces of 160,000 lb. Many appliances, such as centrifugal pumps, stokers, turbo-generators and boosters, the lubrication

problems which were formerly met with only in stationary power plants, are now part of these locomotives.

Today, oil companies holding equipment contracts number upwards of 20 and as many as four or five share the gallonage of a single road. Specialization has been carried to such extremes that as high as 21 different oils are recommended for the lubrication of a passenger train and its locomotive. Now, on top of this comes a new and intricate type of motive-power plant in the gas and gas-electric cars, and the Diesel-electric locomotive.

Many railroad companies have installed self-propelled rail motor cars to take the place of steam trains for local main-line and branch-line service, and the use of this class of equipment is being rapidly extended. Gas or gas-electric self-propelled rail motor cars operate in most exacting and severe service, because time schedules must be met and the cars must go on hour after hour without failure for many days at a time. Due to the strains and stresses in operation, manufacturers have developed highly specialized engines and equipment to obtain long life and freedom from failures in service. Tendencies of motor-car schedule speeds are upward and the passenger-train ton-miles are constantly increasing so that there is a demand upon the engine designers and manufacturers to build better and more powerful engines.

Gas and gas-electric rail-car train-operating efficiency has been very low at times with different railroads and the lubricants have borne unjustly their share of the failures many times. Statistics show, however, that where lubrication delays have occurred they can be traced to untrained organizations, to mechanical defects, and to improper lubricants, or to improper methods of application.

To lubricate gas and gas-electric rail cars efficiently, the training of the operator, maintainer and back-shop repair man is of utmost importance just as it is in the handling of a steam locomotive. Until this organization is perfected to follow standard practices, troubles due to excessive dilution, improperly reclaimed crankcase oils, high oil consumption and burned-out bearings will exist. Also, with an organization not fully equipped with modern automotive shop equipment to service these gas cars, lubrication troubles will be prevalent.

One of the main complaints is that of high lubricating-oil consumption of the engine. A survey of this phase shows that on the same make and size of car the consumption varies from 35 to 200 miles per gallon where gasoline is used for fuel. The mechanical condition of the engine is largely responsible for this, because wide variations on the same road using the same oil under similar conditions are found to exist. In such instances, low piston-ring tension due to wear or fatigue; excessive cylinder or piston clearances due to scores, wear or both; cam shaft and connecting-rod bearing clearances exceeding upper-limit tolerances caused by wear or mechanical adjustments, distorted



cylinder liners following renewal or insufficient running-in time at lower revolutions per minute prior to placing in service under maximum loads, make for poor piston seal and result in high oil consumption.

#### Gas and Gas-Electric Rail Cars

Comparing the service rendered and the economy of the self-propelled rail motor cars, much can be said in their favor. When it is possible to get 11,000 miles per month out of such cars, to obtain 150,000 miles or more between over-hauls with operating, maintenance and overhaul costs considerably under that of steam locomotives and to replace two locomotives with a gas-electric car, then the lubrication problems of these cars become mere trifles, yet they are at least aggravating.

#### Standardization

The need for standardization in lubricants for railway equipment and rolling stock is readily seen when the different types of lubricants used in other industries on similar appliances are taken into consideration.

Take, for instance, the air end of the steam locomotive air compressor. For these air cylinders, oils in service range from a light engine oil of 43 sec. Saybolt at 210 deg. F. to valve oils of 220 sec. at 210 deg. F. and from greases of aluminum stearate and spindle oil to rod cup grease dissolved in water. Surely service conditions and air-compressor design do not warrant variations in lubricants of this magnitude.

The recommendation of lubricants for roller bearings of car-journal applications at one time approached the air-compressor situation in that one manufacturer recommended winter car oil, the second a mineral valve oil, the third a bearing grease, and the fourth an S.A.E. 40 viscosity number motor oil. A.R.A. summer car all-year oil is much in demand, yet no such product is still too high in viscosity and the need for an commercially available under existing bearing tolerances and insufficient bearing surface finish.

#### Forced Feed Lubrication of Driving Journals

Several attempts have been made to lubricate the driving journal bearings of steam locomotives with force-feed lubricators, using valve or mineral oils, but so far in this country the success is limited to switch engines. When tried on passenger locomotives, the speed is too high for the load-carrying capacity of the oil under existing methods of design. The designs used show faults in that either the feed is put into the top center of the bearing where the oil pressures necessary to establish an oil film is in excess of 2,000 lb. per sq. in., or the oil is fed to the rising side of the journal where end leakage is too great, so that the proper oil film in the crown of the bearing is not formed under existing bearing pressures. Under laboratory conditions it is possible to lubricate the latter condition using a petroleum oil lubricant of 500 sec. Saybolt at 210 deg. F., but such a lubricant is rather heavy for this service, especially under winter weather cold starting conditions.

#### Discussion

In discussing the question of lubricating roller bearings, it was pointed out that the box should be designed so that the bearing is accessible, has sufficient volume and is tight. The bearing should be amply large. Oil should be used and is preferred to grease for the lubrication of roller bearings. Anti-friction bearings do not become injured or fail from shock as much as they tend to lose their effectiveness through wear. Ball and roller bearings are carried on an elastic material which

tends to yield to the action of shocks and wide variety of stresses which may be set up.

The Timken Roller Bearing Company has been making a study of lubricants for roller bearings on locomotives, tenders and cars. This company expects to be in a position to recommend suitable lubricants for roller bearings in railroad service at the conclusion of this study and series of tests with its locomotive. It was pointed out by one of the speakers that roller bearings received their severest test in rolling-mill service, where pressures of one-million pounds and over were frequently encountered.

Several of those present stated that engines for rail-motor cars could not be treated alike. The problems of lubrication varied according to the size and capacity of each engine. Improvements were needed with respect to the reclaiming of lubricating oils and the removal of sludge and dirt. One railroad reported that it was getting 150,000 miles between shoppings for gas-electric cars. Another railroad reported that one of its cars had operated 186,000 miles before renewing the piston rings. To secure this mileage it was necessary to add one gallon of engine oil about every 100 miles. Failure on the part of many railroads operating gas-electric cars to secure maximum mileage was due to improper cleaning and maintenance of oil filters and to maintain the oil at proper temperatures. Many roads are securing 90 per cent availability from gas-electric cars.

Relative to the lubrication of locomotives, reference was made to experimental work on lubricating driving journals and driving-wheel hubs with valve oil, sponsored by the Lehigh Valley. Mechanical lubrication is applied by the Lehigh Valley on a switch engine and road locomotive to 26 different wearing surfaces. The switch engine uses from five to six pints of oil every 24 hours. A device is now being developed for lubricating air compressors by mechanical means.

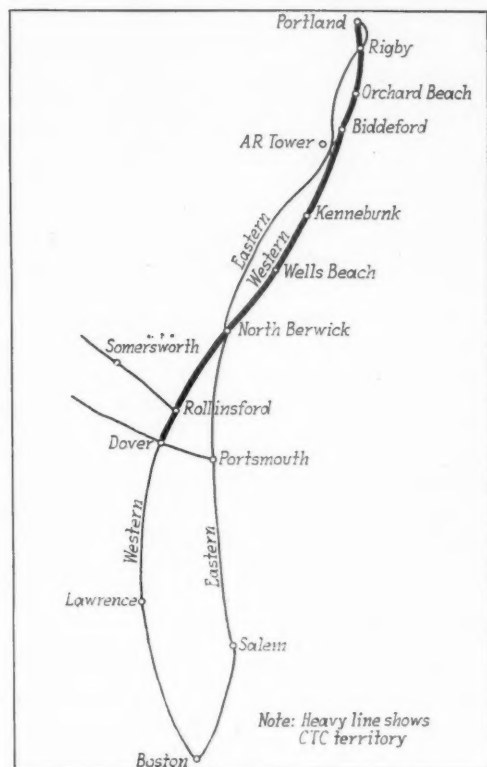
Some of the important bearing surfaces, the lubrication problem of which had not as yet been satisfactorily solved, one of the speakers pointed out, are shoes and wedges, hub faces of driving boxes, air compressors, stokers and boosters. Shoes and wedges should be lubricated with oil as there is never enough heat to melt grease. Hub faces are only lubricated by the oil or grease which was forced out of the journal bearing. This problem is important, because it is necessary to maintain proper lateral.

In reply to a question as to the amount of money spent by the railroads for lubricants, one of the speakers stated that in 1928 the railroads spent \$23,968,000 for lubricating oils and grease, illuminating oils, boiler compounds and waste. This amount increased to \$24,328,000 in 1929, an increase of \$360,000, or of 1.5 per cent. There are many difficulties, he said, surrounding the problem of railroad lubrication. Much of the lubricants purchased by the railroads are purchased on a traffic or reciprocity basis. For example, one western railroad buys its lubricating oils from fifty-five different concerns, the reasons being traffic. Another railroad uses twenty-one different grades of lubricating oils for the same purpose. An important transcontinental railroad, which has made a considerable investigation of lubrication, buys its journal oil from one company, its valve oil from another, engine oil and passenger-car oil from a third, and its compounds and rod grease from still another company, for traffic reasons.

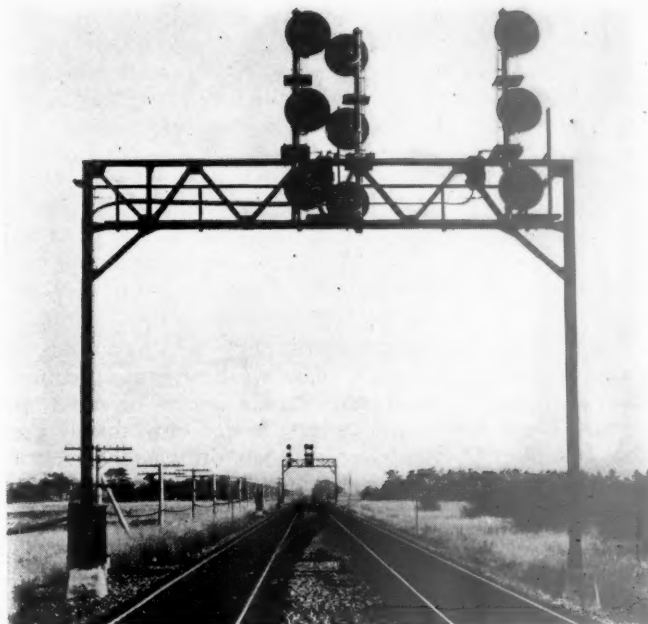
The solution of the problem of railroad lubrication, it was pointed out, was providing the proper lubricant at the proper place with proper clearances. The most important property of the lubricant used is film strength.



# Centralized Traffic Control on the Boston & Maine



Map Showing Relation of C.T.C. Territory to Remainder of Route



View Looking East at Grand Beach Crossover Layout

Project on 34 miles of line increases flexibility of train operation and reduces operating expenses

**T**HE Boston & Maine introduced the centralized traffic control system in New England, placing its first installation in service in March, 1929. Since then, this road has made 10 other installations until 159 miles of road, involving 343.6 miles of track, on the B. & M. are now operated under the centralized control system, thus leading all other roads in this country in this respect.

The most recent installation of C.T.C. on the B. & M. is between Rigby, Me., and Dover, N. H., which territory includes 8 miles of single track and 26 miles of double-track line, involving three junction layouts, one end-of-double track and several passing track switches equipped with power machines which together with the signals for directing train movements, are controlled by the centralized traffic control system, the principal control machine being at AR tower near Biddeford, Me. The control system was furnished by the Union Switch & Signal Company. This installation was made as a part of the program of modernization of facilities on the Boston & Maine, and has resulted in more flexible operation of trains in this territory, as well as in a reduction in operating expenses, as will be explained later.

## General Track Layout

The Boston & Maine has two separate lines between Boston, Mass., and Portland, Me., 115 miles. The original B. & M. passes through Lawrence, Dover,

North Berwick and Biddeford, while the Eastern railroad, now a part of the B. & M., goes via Salem and Portsmouth, crossing the other line at North Berwick and again at Rigby. The original B. & M. line, now known as the Portland Division western route, is double track from Boston to Portland, except for 8 miles between North Berwick and Kennebunk, likewise, the other route, known as the Eastern route, is double track from Boston to Portsmouth, 57 miles, and then single track to Portland, 55 miles.

The traffic includes eight through passenger trains each way over the Western route and five over the Eastern route as far as Portsmouth, three of which continue to Portland. In addition, one train each way daily, the State of Maine Express, a Portland-New York train, uses this line between Portland and Dover. Therefore, there are 24 regular passenger train movements daily between North Berwick and Portland, in addition to numerous extra trains during the summer months. Furthermore, there are five passenger trains each way daily between Dover and Rollinsford, the junction with the line to Somersworth. The freight traffic includes from 15 to 22 through train movements daily, one of the most famous of these trains being the "Bullet" which provides overnight service between points in Maine and New York City.

In the territory under discussion, i.e., between Dover and Rigby, both lines had for years been equipped with semaphore automatic block signaling. A 35-lever me-

chanical interlocking plant at North Berwick not only protected the crossing of the two lines but also operated the switches for connecting tracks. The same kind of a layout had been in service at Rigby. For several years prior to 1925, practically all the through trains of both lines were handled between North Berwick and Rigby on the original B. & M. line via Kennebunk. However, in that year it was decided to rehabilitate the other line between these points to provide an alternate route, thus affording increased capacity. Although the two lines are widely separated for the greater part of the distance between North Berwick and Rigby, it so happened that there was a point about a mile west of Biddeford where the lines were only 80 ft. apart. Therefore, as a means of further increasing the flexibility of operation, connecting crossovers were installed at this point and an electro-mechanical interlocking, known as AR tower, was constructed.

These improvements facilitated the handling of trains decidedly; however, there were several objectionable features. Train movements were directed by manual block and train orders, which introduced certain delays. A dispatcher was on duty each trick at AR tower and three-trick manual block stations were maintained at Rollinsford, North Berwick and Kennebunk. The end of double-track switch at Kennebunk was hand thrown, being protected by manually-operated bolt-lock signals operated two tricks by the baggage-men on duty at this point, while during the third trick trains were required to stop to handle the switch. All of the passing track switches were hand-operated, which introduced certain delays when making meets. At the Rollinsford junction, where the line to Somersworth branches off, the crossover and junction switch were hand-thrown and a ball signal was used for protection.

Based on the excellent results being obtained from other installations of centralized traffic control in service on the Boston & Maine, it was decided to investigate the practicability of providing such a system on the

main line between Rigby and Dover with a view to increasing the flexibility of train operation, as well as reducing operating expense.

### The Centralized Control Layout

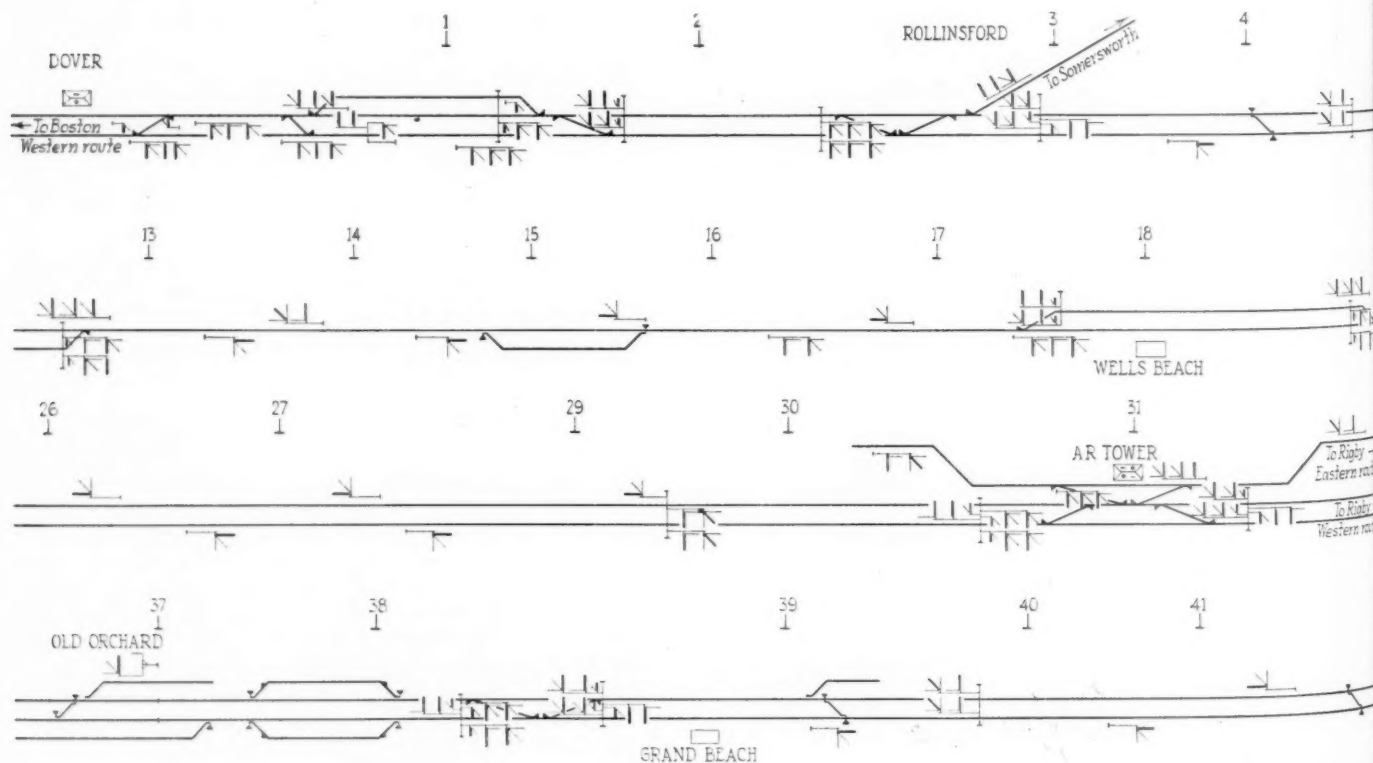
As a first step in the centralized control program, the crossover and junction switches at Rollinsford were equipped with power machines and, together with the signals for directing train movements, are controlled from a C.T.C. machine located in the interlocking tower at Dover. This machine also controls the operation of the switches for the eastbound passing track west of Dover. Two switches and two signal levers are provided for the direct-wire control of the passing track layout. The remaining levers are for the switches and signals at Rollinsford.

The territory from Rollinsford east to Rigby is controlled from a C.T.C. machine at AR tower. The first major change in this territory was to remove the railroad crossing at North Berwick and revise the track layout to provide crossovers such that trains can be routed from one route to another. The mechanical interlocking was removed and all switches were equipped with power machines which, together with the signals, form a part of the centralized control system.

The passing track at North Berwick was extended to provide capacity of 145 cars and the east-end switch was equipped with a power machine. Likewise, power machines were provided at the switch at the end of double track at Kennebunk and at the two passing track switches at Wells Beach.

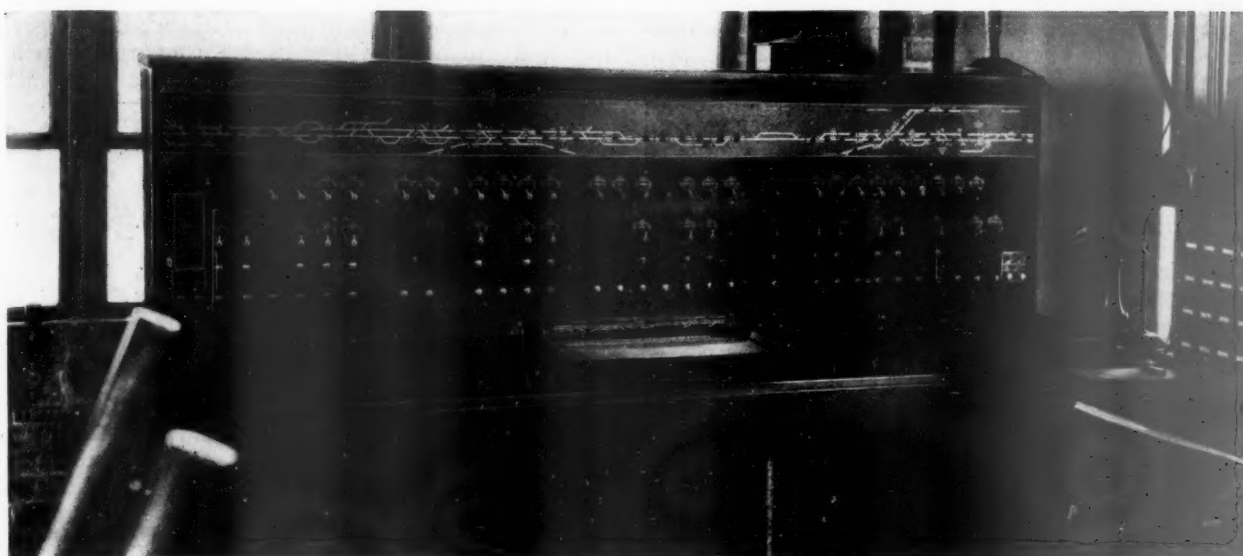
### Train Movements Directed by Signals

The centralized control system includes signals for directing train movements by signal indication without written train orders. On the double track sections, i.e., from Dover to North Berwick, and from Kennebunk to Rigby, train movements may be made in either di-



Track and Signal Plan of Centralized Traffic Control





C.T.C. Control Machine in AR Tower

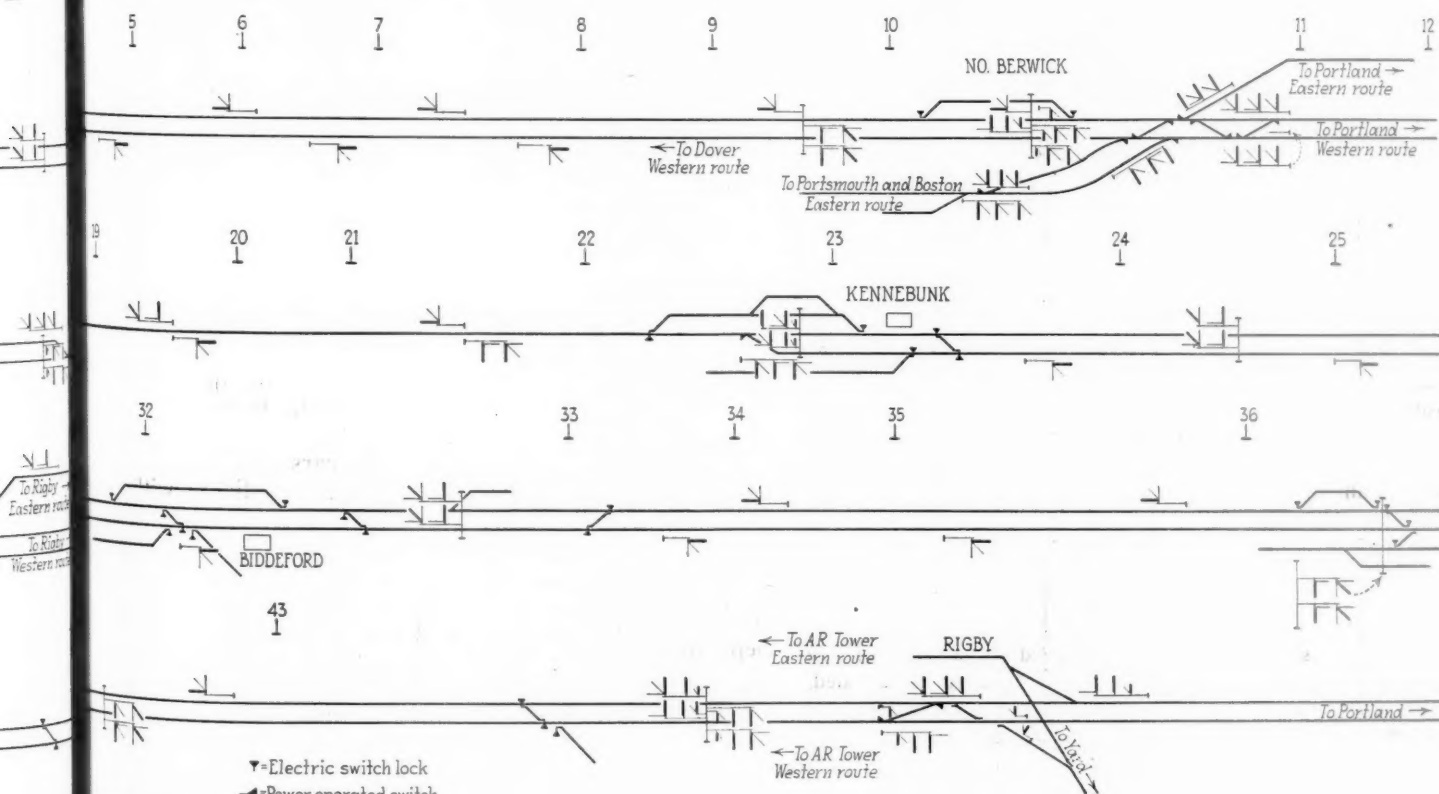
rection on each track. Automatic signals have been provided to govern movements in the normal direction of traffic, while a signal has been installed at the leaving end of the interlocking for against-traffic movements, this signal being controlled to the next controlled interlocking signal.

The Eastern route between North Berwick and Rigby was also previously equipped with Style-B semaphore signals, the circuits for which operate on the overlap principle. This signaling was retained unchanged, but circuits were added to prevent the signals being cleared at each end to permit trains to occupy the section between North Berwick and AR or between AR and Rigby simultaneously. The circuits are so arranged that following moves may be made.

At each location of controlled switches or signals

where code equipment is installed, a switchboard has been furnished so that, in the event of trouble, the maintainer may quickly bypass the code equipment at that station or cut out the line in the rear of the station so that the code system may function up to that point. This arrangement of switches facilitates the location of trouble and permits the restoration of at least a portion of the code system to service as soon as the fault has been located.

As a part of the system, a total of 41 crossover and passing track switches, not equipped with power-operated switch machines, are protected by electric locks which are controlled from the C.T.C. machine. The control of the electric switch locks has been arranged to provide the most flexible operation possible with this type of signaling. As installed, an electric



Control Territory Between Dover and Rigby

lock may be released following the passage of a train in the normal direction of traffic or against traffic, provided other trains are not approaching. Thus it is not necessary for trains to wait until a train movement against traffic has left the block before an electric lock can be released.

At Dover a reverse crossover was lengthened to permit high-speed train movements. High signals were added at this location so that train movements could be made in either direction on both tracks between Dover and Rollinsford. The signals through the Dover interlocking between the tower and the east end were changed to permit train movements in each direction on both tracks, the control of these additional functions being included in the existing electrical interlocking plant at this point. Likewise, at Rigby, a new reverse crossover was added and is connected into the existing mechanical interlocking at the crossing. At Grand Beach there is a set of two crossovers equipped with power-operated switches which, together with the necessary signals, are controlled from the C.T.C. machine at AR tower.

The control machine at Dover has 9 levers while that at AR tower has 26 levers for signals and switches and 13 for traffic locks and electric switch locks. The centralized traffic control system includes the circuit code control scheme of the Union Switch & Signal Company in which only 1.5 seconds are required for a code to be sent out and the same time is required for an indication code to return. The indications on the switch and signal levers are continuous and are independent of the position of the levers. Furthermore, the track indications are continuous. On the machine at AR tower, lights are provided to indicate whether power is on or off of each of the various sections of the 550-volt a-c. line. The control machines, as well as the field units, were wired at the factory.

Near the left center of the machine in AR tower, a group of four switch levers and three signal levers, which are now spares, are furnished to control the AR plant layout if it is decided at a later date to eliminate the electro-mechanical interlocking.

#### Benefits Accomplished

The centralized traffic control system has been placed in service in different sections as fast as completed, the first section from Dover to Rollinsford being completed August 31, 1931, while the final section of control for either-direction operation on both tracks was not placed in service until January 30, 1932.

The train movements are so varied that no pre-arranged routing of trains is practicable, the director in charge of the control station, in co-operation with the dispatcher, handling each train as the circumstances require. Naturally the elimination of train orders and the operation of the junction and passing track switches has eliminated much delay. However, the completed system has not been in service long enough to enable data to be secured on the full time saved. Not long after the system was in service, it became evident that sufficient capacity was available on the double track between AR tower and Rigby to handle all trains without delays and the single-track alternate route between these points was bulletined out of service. Likewise, by reason of the benefits of the C.T.C. system and a reduction in the number of freight trains, it was decided, on January 15, that it would be practicable to handle all trains between AR tower and North Berwick over the line via Kennebunk which is equipped with C.T.C., and an order was issued to run no trains on the single-track alternate route except in case of an emergency. These

benefits brought about by the C.T.C. are indeed gratifying and further savings in train operation will, of course, be more evident as the volume of traffic increases to normal.

## Supreme Court Sustains State Truck Regulations

WASHINGTON, D. C.

THE constitutionality of the motor vehicle regulatory laws of Texas and Kansas, the former prescribing size, weight, and load limits for trucks of common, contract and private carriers, and the latter including provision for the taxation and regulation in certain respects of private motor freight carriers, was upheld in two sweeping decisions rendered by the Supreme Court of the United States on May 24, affirming the judgments of the lower courts. In the Kansas case the application of the law to private truckers was the particular issue raised by the plaintiffs, bakeries making deliveries by their own trucks. In the Texas case the validity of the regulations imposed was attacked by representatives of both shippers and truckers, and one of the points involved was an exception from the restrictions in favor of trucks operating only to and from the nearest practicable common carrier receiving or loading or unloading points via the shortest practicable route, which was attacked as designed to favor transportation by railroad. If this was the motive, the court said that fact would not make the classification invalid.

"In exercising its authority over its highways," the Court said, "the state is not limited to the raising of revenue for maintenance and reconstruction, or to regulations as to the manner in which vehicles shall be operated, but the state may also prevent the wear and hazards due to excessive size of vehicles and weight of load. Limitations of size and weight are manifestly subjects within the broad range of legislative discretion."

"The objection to the prescribed limitation as repugnant to the commerce clause is also without merit. The court, in *Morris v. Doby*, answered a similar objection to the limitation of weight by the following statement, which is applicable here: An examination of the Acts of Congress discloses no provision, express or implied by which there is withheld from the state its ordinary police power to conserve the highways in the interest of the public and to prescribe such reasonable regulations for their use as may be wise to prevent injury and damage to them."

#### State May Act in Absence of National Legislation

"In the absence of national legislation, especially covering the subject of interstate commerce, the state may rightly prescribe uniform regulations adapted to promote safety upon its highways and the conservation of their use, applicable alike to vehicles moving in interstate commerce and those of its own citizens. In the instant case, there is no discrimination against interstate commerce and the regulations adopted by the state, assuming them to be otherwise valid, fall within the established principle that in matters admitting of diversity of treatment, according to the special requirements of local conditions, the states may act within their respective jurisdictions until Congress sees fit to act."

After pointing out that the exception as to trucks moving to and from railway stations relates to hauls that



are universally short, averaging from four to eight miles, and that those who come within the exception transport under distinctly different circumstances from other persons using the highways the court said:

"But the legislature in making its classifications was entitled to consider frequency and character of use and to adapt its regulations to the classes of operations, which by reason of their extensive as well as constant use of highways brought about the conditions making the regulations necessary.

"It is said that the exception was designed to favor transportation by railroad as against transportation by motor trucks. If this was the motive of the legislature, it does not follow that the classification as made in this case would be invalid. The state has a vital interest in the appropriate utilization of the railroads which serve its people as well as in the proper maintenance of its highways as safe and convenient facilities. The state provides its highways and pays for their upkeep. Its people make railroad transportation possible by the payment of transportation charges.

"It cannot be said that the state is powerless to protect its highways from being subjected to excessive burdens when other means of transportation are available. The use of highways for truck transportation has its manifest convenience, but we perceive no constitutional ground for denying to the state the right to foster a fair distribution of traffic to the end that all necessary facilities should be maintained and that the public should not be inconvenienced by inordinate uses of its highways for purposes of gain.

"This is not a case of a denial of the use of the highways to one class of citizens as opposed to another or of limitations having no appropriate relation to highway protection. It is not a case of an arbitrary discrimination between the products carried, as in the case of *Smith v. Cahoon*, 283 U. S. 553, 567.

"The provision of section 7 permitting increased loads under the stated conditions applies to all persons and to all products. The discrimination is simply in favor of short hauls and of operations which, as the district court found, are confined to small areas and greatly reduce the danger of traffic congestion and highway casualties. The limitation of the length of vehicles, covered by the exception, to 55 feet, and of the weight of their loads to 14,000 pounds, must be taken to be within the legislative discretion for the same reasons as those which were found to sustain the general limitation of size and weight to which the exception applies."

#### The General Situation

The provisions of the Kansas statute applying to private truckers include license and liability insurance requirements, a tax of five-tenths mill per gross ton-mile, and a requirement that each carrier must keep daily records, upon prescribed forms, and certify under oath summaries showing the ton-miles monthly, and such other information as the state commission may require.

The general situation to which the statute is addressed is thus described by the district court, the supreme court said: "The state of Kansas has constructed at great expense a system of improved highways. These have been built in part by special benefit districts and in part by a tax on gasoline sold in the state and by license fees exacted of all resident owners of automobiles. These public highways have become the roadbeds of great transportation companies, which are actively and seriously competing with railroads which provide their own roadbeds; they are being used by concerns such as the plaintiffs for the daily delivery of their products to every hamlet and village in the state. The highways

are being pounded to pieces by these great trucks which, combining weight with speed, are making the problem of maintenance well nigh insoluble. The legislature but voiced the sentiment of the entire state in deciding that those who daily use the highways for commercial purposes should pay an additional tax. Moreover, these powerful and speedy trucks are the menace of the highways.

"It is apparent," the Supreme Court said, "that Kansas, in framing its legislation to meet these conditions, did not attempt to compel private carriers to become public carriers. The legislature did not purport to put both classes of carriers upon an identical footing and subject them to the same obligations.

"It recognized and applied distinctions. Public or common carriers, and not private carriers, are required to obtain certificates of public convenience and necessity. The former, and not the latter, are put under regulations as to fares and charges. While, with respect to certain matters, both are placed under the general authority given to the Public Service Commission to prescribe regulations, it does not appear from the bill of complaint that any regulation has been prescribed, or that the commission has made any order, of which private carriers may properly complain. The statute itself, however, does impose certain obligations upon private motor carriers of property, and the first question is whether these provisions violate the constitutional restrictions invoked.

"First 'Private motor carriers of property' must obtain a license, pay a tax and file a liability insurance policy. The Public Service Commission has no authority to refuse a license if the described information is given with the application, the liability insurance policy is filed, and there is compliance with the regulations and payment of the license fee. It is not shown that either regulations or license fees are unreasonable. The tax and the license fees, over the expenses of administration, go to the highway fund of the state for the maintenance and reconstruction of the highways the carrier is licensed to use. The insurance policy is to protect the interests of the public by securing compensation for injuries to persons and property from negligent operations of the carriers.

"Requirements of this sort are clearly within the authority of the state which may demand compensation for the special facilities it has provided and regulate the use of its highways to promote the public safety. Reasonable regulations to that end are valid as to intrastate traffic and, where there is no discrimination against the interstate commerce which may be affected, do not impose an unconstitutional burden upon that commerce.

"Motor vehicles may properly be treated as a special class, because their movement over the highways, as this Court has said, 'is attended by constant and serious dangers to the public, and is also abnormally destructive to the ways themselves.'

#### No Arbitrary Discrimination

"The statute does not attempt to impose an arbitrary discrimination between carriers who transport property for hire, or compensation, with respect to the class of products they carry. The exemption runs only to one who is carrying his own live stock and farm products to market or supplies for his own use in his own motor vehicle. In sustaining the exemption, the district court referred to the factual basis for the distinction. 'The legislature knew,' said the court, 'that as a matter of fact farm products are transported to town by the farmer, or by a non-exempt "contract carrier" employed by him. The legislature knew that as a matter of fact the

use of the highways for the transportation of farm products by the owner is casual and infrequent and incidental; farmers use the highways to transport their products to market ordinarily but a few times a year.

"The legislature rightly concluded that the use of the highways for carrying home his groceries in his own automobile is adequately compensated by the general tax imposed on all motor vehicles." And the court properly excluded from consideration mere hypothetical and fanciful illustrations of possible discriminations which had no basis in the actual experience to which the statute was addressed. The court found a practical difference between the case of the appellants 'who operate fleets of trucks in the conduct of their business and who use the highways daily in the delivery of their products to their customers,' and that of 'a farmer who hauls his wheat or livestock to town once or twice a year.'

"The legislature in making its classification was entitled to consider frequency and character of use and to adapt its regulations to the classes of operations, which by reason of their habitual and constant use of the highways brought the conditions making regulation imperative and created the necessity for the imposition of a tax for maintenance and reconstruction."

## Freight Car Loading

WASHINGTON, D. C.

**R**EVENUE freight car loading in the week ended May 14 amounted to 517,667 cars, the lowest figure for a full week, not including any holiday, since the carloading figures have been compiled. The lowest previous figure was for the week that included the Christmas holiday. The May 14 total was a decrease of 16,610 cars as compared with the week before, 229,390 cars as compared with the corresponding week of last year and 411,092 cars as compared with 1930, while it was less than half the loading in the corresponding week in 1929. Ore loading showed a small increase as compared with the week before, but all other commodity classifications showed reductions. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

### Revenue Freight Car Loading

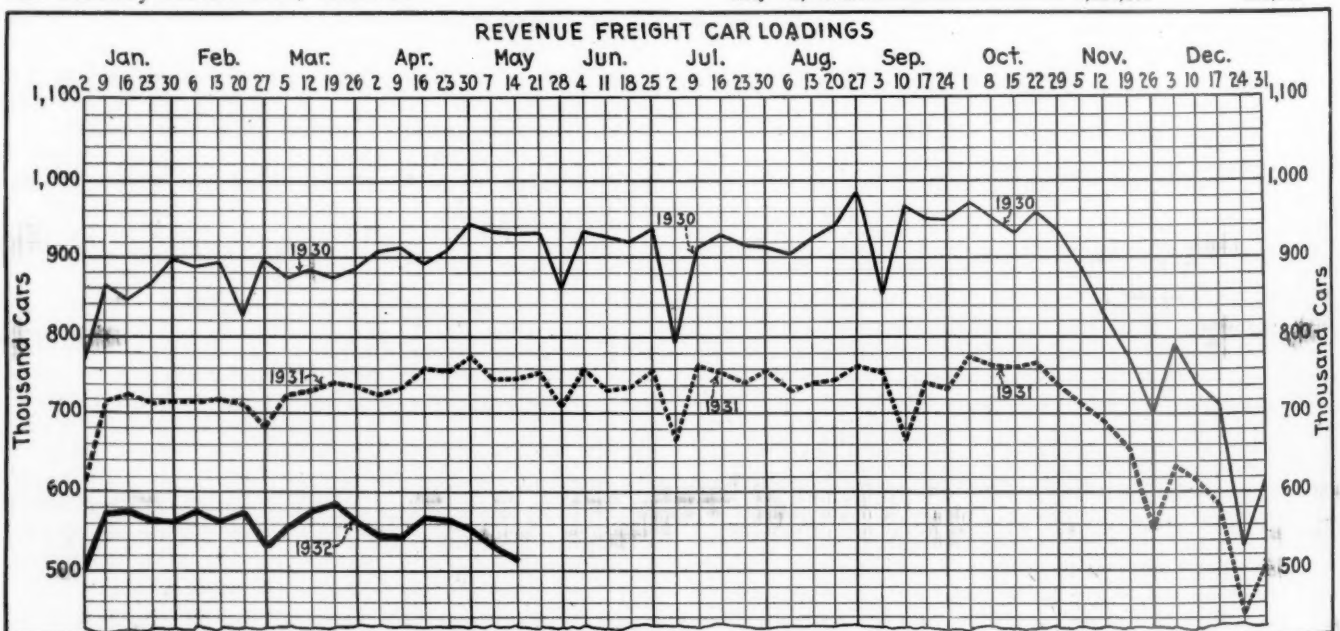
Districts	Week Ended Saturday, May 14, 1932	1931	1930
Eastern	121,197	169,159	215,063
Allegheny	102,297	149,199	190,569
Pocahontas	30,464	44,616	51,327
Southern	78,360	114,483	128,272
Northwestern	60,737	91,364	144,456
Central Western	80,958	112,474	127,719
Southwestern	43,654	65,762	71,353
Total Western Districts	185,349	269,600	343,528
Total All Roads	517,667	747,057	928,759
Commodities			
Grain and Grain Products	28,526	36,492	37,484
Live Stock	17,074	21,227	23,069
Coal	73,543	111,368	134,584
Coke	3,009	6,549	9,265
Forest Products	18,797	33,867	52,789
Ore	2,593	11,875	56,106
Merchandise L. C. L.	181,562	224,252	248,135
Miscellaneous	192,563	301,427	367,327
May 14	747,057	928,759	349,132
May 7	745,740	932,346	368,953
April 30	774,742	942,674	375,876
April 23	758,503	906,879	387,725
April 16	759,494	892,706	375,052
Cumulative totals, 19 weeks	10,849,494	14,076,620	16,336,541

The freight car surplus for the last half of April averaged 728,294 cars, an increase of 860 cars as compared with the first half of the month. This included 363,153 box cars, 294,442 coal cars, 28,965 stock cars, and 14,865 refrigerator cars.

### Car Loading in Canada

Total car loadings in Canada for the week ended May 14 amounted to 43,725 cars which was an increase over the previous week of 2,498 and was the heaviest for any week this year. The increase was more than seasonal and the index number rose from 69.74 to 72.72 which was the highest for the past eleven weeks. Grain increased by 1,174 cars and was also 31 cars heavier than for the nineteenth week last year. Coal also showed an increase over last year of 40 cars and over the previous week of 335 cars. Lumber was heavier than for the previous week by 247 cars and miscellaneous freight increased by 752 cars, but merchandise dropped 239 cars.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada		
May 14, 1932	43,725	19,411
May 7, 1932	41,227	21,017
April 30, 1932	41,750	21,026
May 9, 1931	49,730	29,064
Cumulative Totals for Canada		
May 14, 1932	784,948	408,668
May 9, 1931	905,222	538,918
May 10, 1930	1,084,636	695,015





# Motor Transport Section

## Beating the Depression by Better Salesmanship

Greyhound Lines' sales promotion and advertising methods bring steadily increasing volume of traffic

By John B. Walker

Vice-President, Greyhound Management Company, Cleveland, Ohio

"A SMASHING offense is the best defense," is a proven axiom of military tactics in wartime. Applying it to modern business methods, especially in the transportation field, is a different matter. But where and when it can be done, the results have invariably proved the truth of the saying. At least, such has been the experience of the Greyhound Lines.

With the first indications of the business recession appearing on the horizon, the Greyhound Lines, instead of retrenching and paring down traffic promotion and advertising, launched a vigorous and militant campaign for new business, tapping new fields, bidding for business where motor carriers had been unable to get a foothold, and telling the world through a consistent advertising campaign the advantages of traveling by Greyhound Lines. In short, a course of action was adopted, instead of a course of acquiescence.

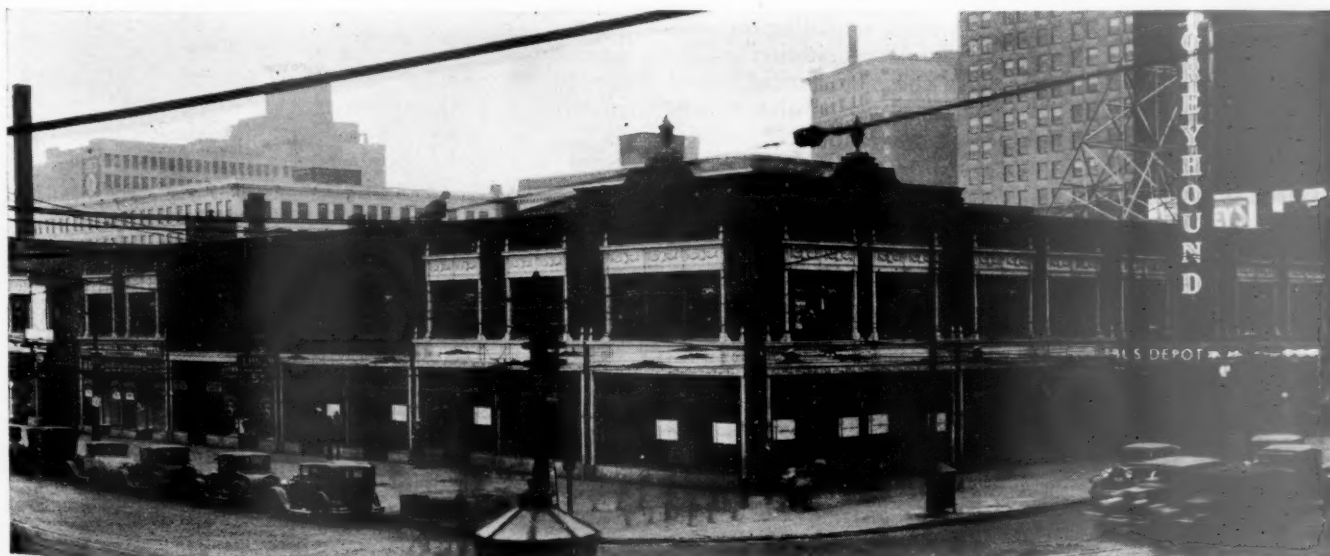
During a period when many transportation companies have been bemoaning the sad state of affairs, the Greyhound Lines have forged steadily ahead in volume of business. When the final figures for 1931 were

tabulated by the Greyhound Corporation, they showed total net income, earned and accruing, of \$575,747. Last year, in excess of 25,000,000 passengers were carried.

### Success Due to Traffic Promotion and Advertising

When the reason for the Greyhound Lines' outstanding performance during the depression years of 1930 and 1931 is asked, one must necessarily look to the methods used in traffic promotion and advertising. In so far as advertising is concerned, Greyhound Lines have appropriated increasing amounts for advertising purposes each year. For the year 1931, approximately 20 per cent more was spent than in the previous year, the sum for all expenditures totaling nearly a million dollars.

Merely an increase in expenditures, however, does not imply the effectiveness, and the effectiveness of Greyhound advertising was more apparent last year than ever before. In accordance with the trend of the times, special emphasis was laid on economy, yet this



The New Greyhound Terminal at Cleveland, Ohio, Is Typical of the Improved Station Facilities Which Are Attracting Traffic



The New Cleveland Terminal Is  
Fully Equipped to Accommodate  
All the Needs of Travelers

appeal was subtly handled so as to attract a better type of patronage. According to a survey made by the Greyhound Lines, more people took their first motor bus trip in 1931 than in any year since bus service was generally introduced. These new first riders were to some extent won over from other forms of commercial transportation, but in the main were weaned away from the use of automobiles. In their 1931 advertising campaign, the Greyhound Lines made liberal use of national magazine space, and it is their opinion that this type of advertising, reaching as it does a fairly high-grade clientele, was responsible for the increase in better-class patronage.

#### Training of Ticket Agents

Closely coupled with the advertising program of Greyhound Lines is its program of traffic or sales promotion. The training and schooling given each ticket agent has played no small part in the rapid development of the system and its popularity among the traveling public. Special passenger agents, assigned to territories and working under the direction of regional managers, are the direct outside contact men in their respective districts. They are charged with the dual responsibility of instructing agents and developing the business. These men are ever on the lookout for any event which may prove of popular interest and in connection with which Greyhound Lines can handle the transportation.

Before these passenger agents are assigned to their territories, they are given a thorough schooling on rates, tariffs and the fine points of traffic solicitation. Each man is equipped not only with complete tariffs, schedules and routing information, but carries also a complete portfolio of photographs and charts illustrating Greyhound coaches, stations, garages, points of scenic interest along important routes, etc. These portfolios give the passenger agents something tangible and interesting to show prospects, conveying as nearly as possible just what awaits the traveler who selects Greyhound service. It has been found that sales resistance can be more easily broken down when salesmen are equipped with material whereby the actual facilities offered are adequately pictured.

#### Special Sales Campaign

Due to the flexibility of bus operation, the Greyhound Lines can adapt their service to meet special conditions of travel, as they arise, with special rates, excursions and schedules. Excursion fares are put into effect to points of general interest whenever the occasion warrants, and such fares are widely advertised.

One of the outstanding bits of traffic promotion en-

gineered by the Greyhound Lines in 1931 was the special sales campaign conducted in 17 key cities last fall and winter. This campaign, consisting of a one-week intensive sales drive in the cities of New York, Boston, Mass.; Baltimore, Md.; Philadelphia, Pa.; Washington, D. C.; Pittsburgh, Pa.; Cleveland, Ohio; Cincinnati; Detroit, Mich.; Louisville, Ky.; Indianapolis, Ind.; St. Louis, Mo.; Kansas City; Omaha, Neb.; Chicago; Milwaukee, Wis.; and Minneapolis, Minn., contained all the elements of a surprise attack combined with a bit of master showmanship.

From 10 to 30 special passenger agents were marshalled for each drive. Each city, where a drive was conducted, was divided into sections, and passenger agents were assigned to cover definite territories. Contacts were established with all tour and travel agents, steamship offices, barber shops, dentists' and doctors' offices, hotels—in fact, every place from which traffic could be expected. Hundreds of worth-while contacts were made and thousands of pieces of literature were personally distributed during these drives. The "piece de resistance" of these drives was a special folder made up for each city. This contained, in addition to a map of the city showing the exact location of the Greyhound Terminal and information pertinent to the service rendered locally by the Greyhound Lines, a list of from 500 to 750 cities and towns served by the Greyhound Lines, together with the one-way and round-trip fares, the running time to each city and town, and the time of departure from the local terminal. These folders were actually handy reference tariffs and were eagerly accepted by travel bureaus, hotel porters, large employers of labor and other good sources of potential bus traffic.

Results were not long in making themselves felt. In cities where the canvass was conducted prior to the Christmas holidays, the Greyhound Lines enjoyed the largest volume of holiday business in their history. Information desks were swamped with telephone calls, mail and personal inquiries, entailing the employment of extra help in a number of cases. From the nature of the queries and the volume of traffic, it was apparent that new sources of revenue had been tapped.

While the immediate effects of the campaign were gratifying, and, in fact, justified the expense, more permanent effects were noted when the gross sales of practically every city in which a drive was conducted held up remarkably through the usual low-ebb winter months.

#### Sales Contest for Agents

Supplementing these intensive traffic drives in the larger centers was a special campaign for all ticket



agencies, involving two unique sales contests. Cities served by the Greyhound Lines were classified according to population and class and frequency of bus service. Sales quotas were established, and special cash and merchandise prizes were offered to the agents making the best showings. These contests were held during the low traffic months between October and March. The first contest, held during the months of October, November and December, was designed primarily to stimulate sales to western points. The second contest held during January, February and March was general in nature. Results from these contests were so gratifying that the Greyhound Lines expect to include the sales contest idea as a permanent feature of their traffic promotion program.

Among other factors of less prominence, but contributing in the aggregate to the success of the Greyhound sales program, might be mentioned the plan of employing, in larger cities, forces of solicitors on a strictly commission basis. These men, soliciting both charter or party coach business, as well as individual transportation, were responsible for a remarkable volume of business. To keep them supplied with a certain number of "live leads," telephone information clerks were instructed to secure, whenever possible, the names and addresses of persons inquiring for information on trips, the price of which exceeded \$20. These names were apportioned to the commission solicitors, who made individual calls upon the prospects and closed sales with a very high percentage. Special effort was put forth to secure more charter and individual business from schools and colleges, and gross sales in this field for 1931 exceeded the record of 1930 by more than 200 per cent.

#### Better Stations Provided

A consistent program of station improvement has been responsible in a number of cities for an increase in sales. New stations, reflecting in their location, equip-

Special Folders for Individual Cities, Showing Schedules and Fares to Hundreds of Destinations, Were Eagerly Sought By Travelers

ment and cost, the confidence of the Greyhound Lines in both the immediate and future prospects of bus travel, have been established during the past few months in Buffalo, N. Y., Syracuse, Albany, Cleveland and Columbus, Ohio. Two additional stations, representing a considerable investment, are in process of construction in Cincinnati and Washington.

These, and other factors, all the result of careful planning and courageous promotion, and not any inherent attraction that may attach to bus transportation in general, are responsible for the very satisfactory business enjoyed last year and still being enjoyed by the Greyhound Lines.

## General Motors Adds New Semi-Trailer

**T**O supplement its Model T-18 motor truck, which has a capacity of from 1½ to 2 tons, the General Motors Truck Company, Pontiac, Mich., has placed on the market a new semi-trailer with wearing parts interchangeable with those of the truck. The nominal capacity of this trailer, which is designated as Model TT-218, is 3 to 5 tons.

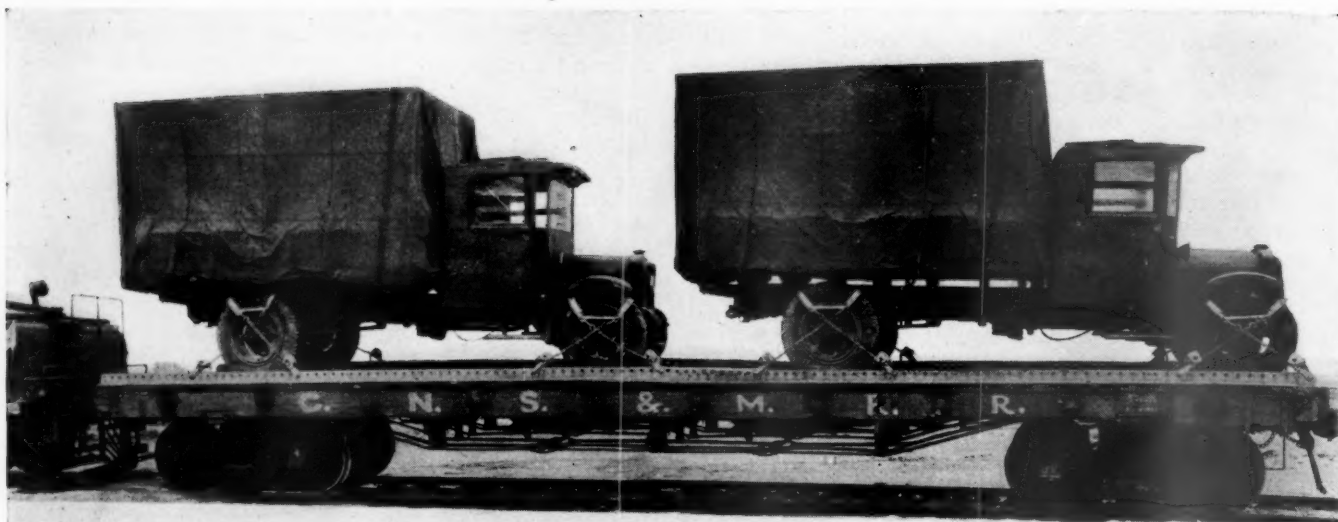
Using a one-piece formed pressed steel frame of "fish-belly" construction, with a 6-in. drop and a length of 14 ft., maximum load-carrying ability is obtained by concentrating 60 per cent of the body and payload weight on the trailer axle. Contributing to the greater strength of the frame are five pressed steel cross-members of the integral gusset type. Shackles, shackle bolts, bushings, wheels and brake parts are interchangeable with the regular Model T-18 truck parts. Adequate spring strength is obtained by using special springs with 11 leaves, each ¾ in. thick. The power brakes are of the BK vacuum type, and a parking brake can be supplied which is operated automatically when the support wheels are lowered.

A feature of this semi-trailer is the mechanical support, which is of a new type. The front supporting wheels are raised and lowered by means of a steel cable and lever arrangement, actuated by a crank at the side. It is locked in either position by a dog, and in addition the supports swing past the center position, thus insuring complete safety.

The lower fifth wheel is of the regular GMT 24-in. type, spring cushioned, the semi-automatic feature reducing the force of coupling blows and protecting the life of the unit. The upper fifth wheel is integral with the frame and consists of a heavy steel plate across the entire width of the frame, extending back to the second cross member and supporting a steel bolster and hardened king pin.

The new semi-trailer is particularly adapted to long distance hauling and picking up and delivering local freight. The body provides a capacity of from 600 to 800 cu. ft. Pressed steel cross sills, interchangeable with those on the truck, are used in the body construction.

Stakes are set within the pressed steel platform base, providing an integral rub rail on each side. A 42-in. stake and rack body and stake express body with a 2-ft. reinforced tail gate are available. Formed steel wearing strips, bolted directly to the steel cross sills, hold the floor in position and at the same time provide a dust-tight floor construction.



North Shore Line Flat Car Loaded with Two Trucks for Movement Between Chicago and Milwaukee, Wis.

## Another North Shore Line Innovation

Loaded trucks now handled on flat cars—Extends ferry-truck plan which has been successful in attracting traffic

**D**ETERMINED to adopt every possible means of co-ordinating railway and truck service and of meeting highway competition, the Chicago, North Shore & Milwaukee is offering another new service to shippers in Chicago, Racine, Wis., and Milwaukee. An adaptation of the ferry-truck plan, which the North Shore Line has used successfully for several years, the new service consists of the movement of entire motor trucks and trailers, loaded with merchandise, by flat car. Under this plan, loaded trucks or trailers are received from shippers or trucking companies. These are mounted on specially-constructed flat cars, where they are made fast by a new locking device, and forwarded to their destination. Complete trucks or trailers up to 23 ft. in length are handled at a rate of 10 cents per 100 lb. of merchandise, with a minimum load of 15,000 lb. The rate is the same for trucks or trailers more than 23 ft. long, but in such cases the minimum load is 18,000 lb. Ramps are provided at stations in the three cities for loading and unloading of trucks or trailers on and off the flat cars. Such work is done by the shippers or consignees or their agents.

The service is designed to attract the business of trucking companies or shippers now making their own deliveries by truck between Chicago, Racine and Milwaukee. Such truck operators, instead of moving their loaded equipment over the road, can utilize the rail service, thereby effecting economies in both time and expense. No new equipment, obviously, is required. The delivery of the loaded vehicles by rail eliminates the chance of delays and hazards attendant upon the use of the highways, while all costs involved in the operation of the trucks over the road are done away with.

On account of its location, the North Shore Line has been a prominent target for truck competition. Its

main line extends from Chicago to Milwaukee, Wis., a distance of approximately 90 miles, and the bulk of its freight business has thus been of a short haul, interstate character. Thus it has been open to highway competition in its most aggravated form. Furthermore, it is essentially a merchandise carrier and does relatively little carload business. In addition to competitors on the highways, it has also had plenty of competition from the adjacent steam railway lines and from lake boats which provide regular service between the cities served by the North Shore Line.

Ingenuity and determination have marked the efforts of the North Shore Line to meet competitive conditions, particularly the competition of carriers on the highways. Its first step, several years ago, was to improve its l.c.l. merchandise service. It established several off-track stations in Chicago to make its service of easier access to shippers and consignees. Shipments were transferred between these off-track stations and the railhead at Montrose avenue by tractor and trailer. This improvement was accorded a favorable reception by shippers and consignees. It was not long, however, until this plan of operation developed a further significant fact: That there were numerous full-trailer loads of general merchandise which could be handled intact between Chicago and Milwaukee at less expense than when their loads were broken up and rehandled over the station platform between the trailer and freight car. Out of this came the idea of moving full trailers, with their loads intact, on specially-constructed flat cars. This service, called ferry-truck, was inaugurated on a small scale in May, 1926, and on a substantially larger scale in August, 1927.

### The Ferry-Truck Service

Ferry-truck traffic is loaded in semi-trailers with inside dimensions of 16 ft. long, 6 ft. 10 in. wide and 5 ft.



11 in. high. The semi-trailers are loaded and unloaded through a door at the end. After loading, the semi-trailer body is locked and sealed by the shipper. It is then picked up by the North Shore Line tractor and hauled to the railhead where the trailer is weighed and backed onto a flat car by means of a ramp at the end of the car. The trailer is securely fastened to the flat car by side supports which fold inward and engage the side of the trailer. Three trailers are placed on each flat car. The average time for loading a trailer on a flat car in Chicago is 9 min., and for unloading 8.5 min. In Milwaukee, the average time for loading and unloading is 2 min. The flat cars carrying the ferry trucks are moved to destination in solid trains by electric locomotives or by motorized cars in mixed trains of l.c.l. freight and ferry-truck freight. The equipment used in the service includes 78 trailers, 10 tractors and 14 specially-constructed flat cars, all owned and operated by the North Shore Line.

The ferry trucks are required to be loaded by the consignor and unloaded by the consignee within the time specified in the governing tariffs. They are moved sealed under one bill of lading from one consignor to one consignee on one waybill. The contents are not rehandled by the railroad and there are no packing requirements. The ferry-truck service has proven to be an exceptionally economical and efficient method of handling l.c.l. freight. Officers of the railway, which is the pioneer in this particular form of service, consider it the most complete co-ordination of railway and truck service yet achieved.

The rates and charges originally applied to ferry-truck traffic were the same as those in effect in connection with the ordinary traffic moved over the platform. On April 15, 1927, pick-up and delivery service at no extra charge on shipments weighing at least 6,000 lb. was inaugurated at Chicago and Milwaukee. On August 23, 1927, this service was enlarged to include the handling of loaded trailers from the store-doors of shippers in Chicago to the store-doors of consignees in Milwaukee at an additional charge of 5 cents per 100 lb., with a minimum of \$3. On November 1, following, this same service was established on southbound traffic.

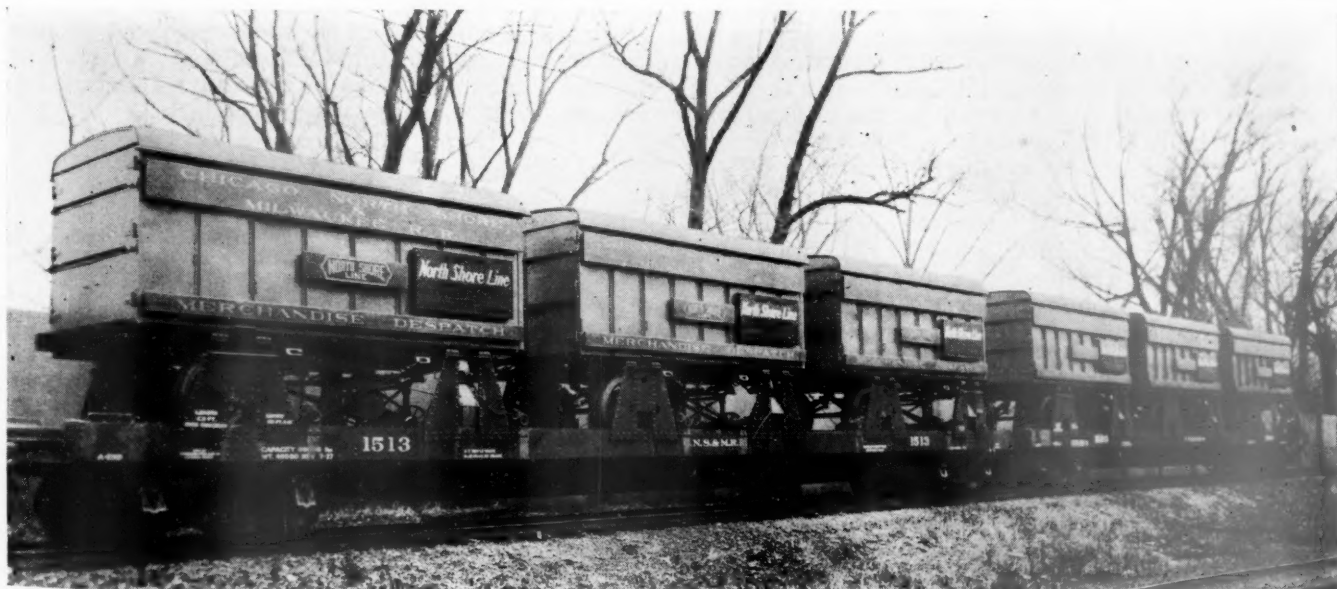
It developed that these services and charges did not enable the railway to compete successfully with its unregulated competitors on the highway. Consequently,

on February 27, 1928, the ferry-truck service was expanded to include pick-up and delivery from one consignor to one consignee at a rate of 20 cents per 100 lb., applicable to all merchandise traffic except livestock and perishables. The minimum weight under this tariff was 20,000 lb. A few months later provision was made for overflow or excess tonnage, this is to be handled in a second trailer at a rate of 20 cents per 100 lb. on minimum overflow loads of 12,000 lb. This was necessary in order to accommodate shipments which, because of their size or weight, could not be loaded in one ferry truck, and also to meet the competition of carriers on the highway which, in similar situations, would supply the shipper with a sufficient number of trucks to handle the overflow without specifying minimum weights.

This service was satisfactory to some shippers but not to others, and so, on January 1, 1929, the North Shore Line proposed to put into effect between Chicago and Milwaukee a rate of 30 cents per 100 lb. on a minimum of 10,000 lb., including store-door pick-up and delivery. This rate went into effect on February 28, 1929, after being temporarily suspended. Certain shippers who could use the ferry-truck service under this rate were in a position to make either the pick-up or the delivery themselves, and to meet this condition a tariff was placed in effect on June 1, 1930, providing for either pick-up or delivery but not both at a rate of 15 cents per 100 lb. and a minimum weight of 20,000 lb. At the same time the ferry-truck services already in effect between Chicago and Milwaukee were made available at Racine, Wis. Finally, on December 8, 1930, in order to meet truck competition more successfully, the minimum weight on ferry trucks with overflow traffic was eliminated and additional services, including pick-up and delivery, were established between Chicago, Milwaukee and Racine at rates of 40 cents per 100 lb. on a minimum of 6,000 lb., and 25 cents per 100 lb. on a minimum of 15,000 lb.

#### Ferry-Truck Service Successful

Operation of the ferry-truck service by the North Shore Line has been marked by success from several standpoints. It has brought the railway a considerable volume of business which otherwise would have moved by truck or lake boat between Chicago, Racine and Milwaukee. Furthermore, while involving reduced



"Ferry-Truck Service" Semi-Trailers Ready for Movement from Chicago to Milwaukee

rates, it enables a form of operation so inexpensive that business in ferry trucks is handled at a substantial profit, while traffic handled in the normal way over the platform and commanding higher rates is handled at a loss. The two most popular services are those at the rates of 20 cents per 100 lb. with a minimum of 20,000 lb., and 30 cents per 100 lb. with a minimum of 10,000 lb., both including pick-up and delivery.

The latest innovation, the handling of entire loaded trucks and trailers, is expected to round out the North Shore Line's service and to attract additional business. In announcing the service, Roy Thompson, traffic manager of the North Shore Line, said, "In introducing this new service, the North Shore Line is further seeking to co-ordinate rail and truck service for the greater benefit of shippers. The road was a pioneer in inaugurating ferry-truck service, whereby door-to-door shipments are handled overnight in specially-constructed equipment furnished by the company. In extending this service so as to handle also the equipment of the trucking companies and shippers themselves, we are adding further to our facilities to meet the present day demand for faster and more economical handling of shipments."

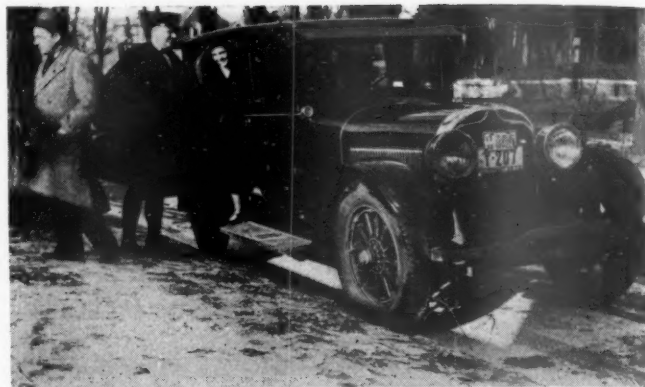
## Good Results Secured from Train-Bus Co-ordination

**T**HE belief that "at last we have found something that appeals to the traveling public" is expressed by the management of the Central Vermont in referring to its co-ordination of motor coach and passenger train service at Burlington, Vt. On February 1, in discontinuing passenger train operation on its Burlington branch, the railway made available to patrons a co-ordinated rail-highway service for the movement of passengers between Burlington and the main line at Essex Junction, a distance of eight miles.

Under this arrangement, coach passengers are carried in buses operated by the Burlington Rapid Transit Company from any point on the routes covered by this company in Burlington direct to trainside at Essex Junction; while Pullman passengers, for an additional fee of 25 cents, are provided with limousine service direct from their homes or hotels to the main-line station. According to the Central Vermont, this service has been well patronized from the start, and the traffic is continuing to grow with satisfactory rapidity.

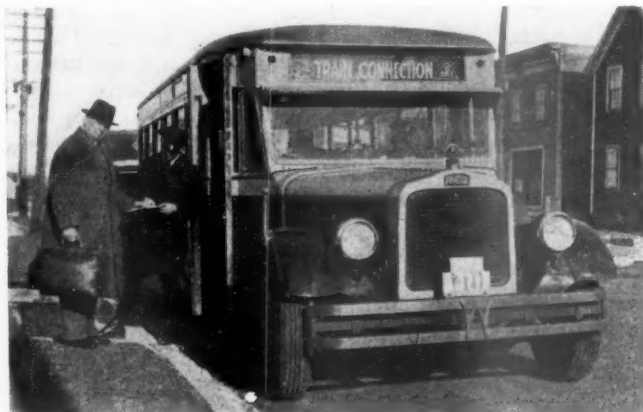
The highway service between Burlington and Essex Junction is provided under contract by the railway with the local transit company. Under the operating arrangements, a coach passenger who has purchased a Central Vermont ticket from Burlington may board a Burlington Rapid Transit Company motor coach at any point in the city. The city bus routes of the rapid transit company provide service convenient to 90 per cent of the residences in Burlington and the adjacent town of Winooski. In most cases the buses run directly to Essex Junction, although in some instances travelers from certain sections of Burlington are required to transfer to another bus at the central bus terminal. There is no charge for this service, the railroad ticket including a coupon for the bus service, which is lifted by the bus operator. Similar service is available for passengers traveling to Burlington.

Passengers desiring Pullman accommodations may



Pullman Passengers Are Delivered to Their Homes by Limousine

secure these either at the Burlington Union Station or at the centrally located bus terminal. Pullman passengers may utilize the bus service without extra charge or will be furnished with individual limousine service for the additional payment. No waiting is involved at the station in Essex Junction, the buses and limousines mak-



One of the 36-Passenger Train-Connection Coaches at Burlington

ing direct connection with the six trains which operate in each direction through Essex Junction daily.

Mail, express and baggage are transferred between Burlington and the trains at Essex Junction by motor truck. This eliminates the necessity for passenger train service on the branch and the only passengers now handled directly into and out of Burlington by rail on the Central Vermont are those in the through Boston-Burlington sleepers, which are still operated.



Mail, Baggage and Express is Handled by Truck



# Odds and Ends . . .

## Where Honor Is Due

Quite appropriate was the recent action of Mrs. J. F. Dreidger, of Craik, Sask. When she became the mother of a son while traveling on a Canadian National train from her home to Regina, Sask., she named the youngster "Cameron Norman Robert," to match the initials of the railway.

## The "Crescent Limited's" On-Time Record

Beginning the eighth year of its operation recently, the Crescent Limited, premier train of the Southern, left behind it a remarkable record of on-time performance. While on the line of the Southern between Atlanta, Ga., and Washington, D. C., making 2,557 trips in each direction, it maintained its schedule on 2,542 southbound trips, an on-time average of 99.4 per cent, and on 2,521 northbound trips, an average of 98.5 per cent.

## Katy Cattle Train Makes Fast Run

The first shipment of cattle to travel over the Missouri-Kansas-Texas lines from Fort Worth, Tex., to St. Louis, Mo., without a stop for food or water, was handled last month. Special handling was asked for a 13-car shipment of cattle for Chicago, and special handling the shipment had. The 757-mile run was made in 32 hr. and 45 min., although two additional cars were picked up at Parsons and 12 more at Sedalia, giving the train a total of 27 cars when it reached St. Louis.

## Bid for Another Championship

Depression or no depression, railroad men continue to lay claim to championships of various sorts. The latest bid comes from Montpelier, Vt., where the Central Vermont station crew of seven men proudly state that they are the heaviest station crew of their numbers in New England. It must be admitted that there is considerable weight to their contention—1,346 lb. to be exact. Their claim having been taken lightly by other station crews in the territory, the Montpelier aggregation, headed by Relief Agent S. E. Thresher, climbed aboard the company's freight weighing scales. Here are the results: Barney O. McGuire, baggage master, tipped the scales at 251 lb. George J. Murtagh, ticket agent, balanced the beam at 205 lb. The others ranged downward with 193 lb., 185 lb., 182 lb., 170 lb. and 160 lb., respectively. Apparently New England station crews are still eating regularly.

## More Odd Jobs for Locomotives

Traffic or no traffic, locomotives manage to keep busy. For instance, at 1:30 a.m. on a recent morning, a locomotive of the Chicago, Milwaukee, St. Paul & Pacific arrived at the Beaver Dam, Wis., plant of a cheese company to do its bit to help the industry live up to its creed that a cream cheese plant must never stop. While one of the plant's boilers was being cleaned, the second boiler broke down. This happened late at night, when it was impossible to set up the spare boiler in time to start operations at 4:30 a.m. as usual. As a last resort, the manager phoned to the division superintendent of the Milwaukee at Milwaukee, Wis. The locomotive was promptly started for Beaver Dam and by four o'clock it was busily at work helping to make cheese. Another thing of the same sort recently happened at New Westminster, B. C. Out there, a new factory needed electric power, although its own power plant had not been completed and its boilers had not been installed. Canadian Pacific locomotive No. 6103 was pressed into service, put under a full head of steam and set to work turning the turbines. Engine crews

came and went, going on and off shift with the same regularity that marks changes of train crews on the road. Steam was maintained 24 hr. a day for two weeks in this fashion.

## Public Relations Activities on the Atlantic Coast Line

Even the enginemen on the Atlantic Coast Line are trying to make friends with the public. Whenever possible, they throw out letters of appreciation at highway crossings, which read as follows: "My good friend, I congratulate you for exercising good judgment in stopping to let me pass over the crossing first. You can stop quickly, but it is more difficult to stop a train. When a motorist takes a chance and tries to beat a train over a crossing, he not only endangers his own life, but also endangers my life, other members of my crew, and passengers, if any. When I saw your car brought to a stop, a satisfied and comfortable feeling came over me. I admire you and ask that you continue to approach and cross crossings cautiously. Take no chance."

## No Traffic Slump on this Railway

A tiny railway system in Mexico, with a track 1½ miles long and 27 in. wide, has been little affected by the general business situation. Its 100,000 stockholders, all of whom are children, have kept the railway's business at the normal level. This line, called the Scenic Railway of Chapultepec, operates in Chapultepec Park. Its rolling stock includes a tiny locomotive which, while spouting smoke and steam in a realistic manner, is actually driven by a six-cylinder automobile engine which is concealed in the dummy boiler. The train consists of six coaches, with capacity for 40 children. The road, which was constructed three years ago, cost \$12,000. Money for its construction was raised penny by penny through the efforts of approximately 100,000 children, who are said to hold annual stockholders' meetings to discuss the affairs of the corporation.

## Two First-Class Coincidences

It has remained for G. J. Derbyshire, general superintendent of the Chesapeake & Ohio, at Peru, Ind., to climax our series of items about adjacent cars and locomotives having the same number. Mr. Derbyshire offers two unusual incidents from his own experience. Referring to the item in the April 9 issue, concerning two cars of different railroads but with the same number, which were coupled together in the same train, he says, "It recalls to my mind a similar incident which occurred in 1900. A gonodola car, C. & O. 14057, loaded with low-grade bituminous coal, was coupled next to a box car, C. C. C. & St. L. 14057, which was loaded with specially prepared cannel coal blocks for open-fire heating. The two cars were forwarded in the same train. The difference in price of the two commodities was about \$6 a ton, and the difference in the freight rates to the destination of the cannel coal, Taunton, Mass., and to that of the bituminous coal, Indianapolis, Ind., was about the same amount. Somewhere enroute the billing was switched. The low-grade coal was taken to Taunton on the billing for the car of cannel coal, and the latter went to the destination of the bituminous coal. There was, of course, a claim and serious complaint about the service. An investigation of the error started at the station where I was agent at the time."

Here is another one that Mr. Derbyshire tells: "A train stopped with the rear end on a bridge over a street. The brakeman, in getting off to go back to flag, overlooked the fact that he was on a bridge, and fell to the street and was injured. The name of the street was Johnson and the name of the brakeman was Johnson. The train dispatcher, who made arrangements to take care of the injured man, was also named Johnson, and he called a doctor by the name of Johnson. There were no relationships involved."

# NEWS

## Roads Should Borrow From R. F. C., Buy Bonds

Woodlock suggests fixed charges could thus be painlessly reduced

By borrowing from the Reconstruction Finance Corporation and purchasing their own bonds in the open market at present low prices railroads could effect the equivalent of a financial reorganization, which "ordinarily would be achieved only by the tedious process of receivership and foreclosure sale," says Thomas F. Woodlock, former Interstate Commerce Commissioner and now contributing editor of the Wall Street Journal, in a recent article in that paper. Conceding that the advent of such buying would increase present prices, Mr. Woodlock points out that, because the present level is so low, there would be a substantial saving in annual charges even if the bonds were acquired at double the current prices.

As an example he suggests that if a railroad with \$100,000,000 of five per cent bonds outstanding could purchase these at 35 per cent of their face value, with money costing six per cent, there would be at once a saving of annual interest of \$2,900,000. By another calculation Mr. Woodlock shows how the St. Louis-San Francisco, which has been told by the I.C.C. to submit a plan for reducing its fixed charges by July 1, could reduce such charges from an average of  $4\frac{1}{2}$  per cent to 1.3 per cent if it could buy up its outstanding bonds at current market prices even though it had to pay six per cent for the purchase money. Assuming also that all bonds could not be so acquired, Mr. Woodlock holds that there would nevertheless be a substantial saving if any were purchased since "The advantage of purchasing one's own obligations at a substantial discount is at all times obviously real."

Supposing that it were "politically possible" to deal with the railroad situation "in a really business-like manner," he continues to suggest that a plan might be evolved whereby railroads could borrow R.F.C. obligations and exchange these on the basis of current market prices, for their own securities, pledging the latter with the R.F.C. Finally, he asks, if the St. Louis-San Francisco should submit some such plan in compliance with the I.C.C. demand that it reduce fixed charges "could anyone deny that it was a logical 'plan' standing on real feet?"

"The real foundation for the logic," he continued, "is in the fact that the mar-

ket for railroad bonds has liberally 'discounted' the unfavorable position of the industry and that by so doing it has opened an opportunity for bringing railroad capitalization down to the facts. It seems to be an effective substitute for the radical and expensive surgery of receivership."

## Non-Productive Works Opposed by President

But he favors aid, such as R. F. C. loan to P. R. R., for "income-producing" projects

The proposed loan of \$27,500,000 to the Pennsylvania Railroad by the Reconstruction Finance Corporation, which was approved by the Interstate Commerce Commission last week, was cited favorably by President Hoover, to illustrate the difference between loans for "income-producing" improvements and government bond issues for "non-productive" public improvements, in a letter made public on May 23 to the president of the American Society of Civil Engineers which had urged on the President a proposal for a large issue of bonds to finance public works construction. The President said he favored extension of the authority of the Reconstruction Finance Corporation to make loans on sound security to industry where they would "sustain and expand employment" but he objected to making loans for further expansion of "public works of remote usefulness" on the ground that they would impose "unbearable burdens upon the taxpayer, unbalance the budget and demoralize government credit," and he particularly compared the Pennsylvania loan with the proposal in a bill passed by the House to appropriate \$132,000,000 for highway construction. He also referred to river and harbor improvements as being in the class of "non-productive public works which bring no direct income and comparatively little relief to unemployment."

Referring to the distinction between "income producing" or "self-liquidating" works and "non-producing" public works, the President said:

"I can perhaps make this distinction clear by citing the example of the recent action of the Reconstruction Finance Corporation in the matter of the Pennsylvania Railroad Company on one hand, and the recent bill passed by the House of Representatives for increased road building on the other.

"The railroad company applied to the Reconstruction Corporation for a loan of \$55,000,000 to help finance a fund of over \$68,000,000 needed to electrify certain of its lines. By so doing it would employ directly and indirectly for one

(Continued on page 927)

## Ex Parte 103 Increase Has Proved Inadequate

Buckland, holding additional funds are needed, asks alinement of intrastate rates

Pointing out that receipts from the increased rates authorized by the Interstate Commerce Commission in Ex Parte 103 have not been up to expectations, E. G. Buckland, president of the Railroad Credit Corporation, testified before the Interstate Commerce Commission on May 25 that his organization can not meet the requests of the various roads for loans unless additional funds are forthcoming. Mr. Buckland appeared in connection with an investigation which the commission has instituted due to the refusal of the regulatory bodies in ten states to permit increases in intrastate rates similar to those permitted by the commission. The states are Arkansas, Idaho, Kentucky, Louisiana, Minnesota, Montana, Nebraska, Oklahoma, Texas and Utah.

He urged that states which so far have not adjusted their intrastate rates to conform to the interstate increases be required to do so in order that the financial relief intended by the commission can be provided to the fullest extent possible under the decision.

"In its decision handed down on December 5, 1931," Mr. Buckland said, "the Interstate Commerce Commission authorized comparatively small increases in rates and permitted the carriers to proceed with the plan which they had proposed. The funds collected by The Railroad Credit Corporation have been used for making loans to prevent defaults in fixed interest obligations. The first problem was the rendition of relief before there was any money to administer. Fortunately, provision had been made for the interest requirements of the carriers due in January. February requirements did not amount to a great deal. The interest obligations to be made on March 1 were large. The Credit Corporation gave assurances by resolutions that, if and when funds were available, it would take over any loan which the Credit Corporation would have made if it had then been in funds. This, while not constituting discountable bank paper, was accepted by some banks interested in the affairs of certain railroads, but the most assistance came from the fortunate organization of the Reconstruction Finance Corporation in season to help with the March 1 maturities.

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## Seatrain Lines Plans N. Y.-Havana Route

Car-carrying steamer service now operated out of New Orleans to be extended

Seatrain Lines, Inc., which during the past three years has been operating, between New Orleans, La., and Havana, Cuba, the "Seatrain", a new type of vessel for carrying railroad cars, plans to inaugurate a New York-Havana service in September, according to a recent statement by Graham M. Brush, president. The "Seatrain" has a capacity of approximately 100 cars which it carries on three decks; a description of this New Orleans-Havana vessel which is similar to the two now under construction for the New York-Havana service appeared in the *Railway Age* of September 15, 1928, page 492.

The New York terminal will be located in Hoboken, N. J., where crane facilities for transferring cars are being installed along the line of the Hoboken Manufacturers' Railroad. This switching line, as announced in the *Railway Age* of April 30, page 751, was recently acquired by Seatrain Lines. The two new vessels for the New York service are being built by the Sun Shipbuilding Company, Chester, Pa., at a cost of about \$1,580,000 each. It is the ultimate plan of the Seatrain Lines to expand into coastwise shipping and at present there is in contemplation an extension of the New Orleans service to Mobile, Ala., by means of a car float operation. Likewise the possibility of a New York-New Orleans service, by means of a transfer of cars at Havana, was suggested.

Some competition with the railroads is perhaps inevitable as the "Seatrain" service is extended, Mr. Brush conceded, but he held that any possible losses would be more than offset by revenue from newly-developed traffic and in reduced handling costs at ports.

The experience of three years with the New Orleans-Havana service, he asserted, indicates that the "Seatrain" is able to justify rates to attract traffic which other water carriers and car ferries cannot handle profitably. It is a co-ordinated rail and water service, eliminating handling of lading. Among the examples Mr. Brush cited in support of this view was a Cuban gas plant which had been buying coke from England and Germany. With the advent of the "Seatrain," Birmingham, Ala., coke producers were able to capture this business and return loading for the gondola cars was obtained with Cuban manganese ore, rock asphalt and scrap iron which never before moved over the New Orleans-Havana route.

Similar examples of how tank, box and refrigerator cars are handled were also given. Seatrain Lines pays per diem on the freight cars, assumes liability for loss and damage, etc. Goods are shipped between points in United States and points in Cuba on through bills of lading but there is no joint tariff. Rates are

combinations of locals—the rate to the port plus the Seatrain Lines rate plus the rate to destination. As for savings in handling costs at the port, Mr. Brush said he looks forward to economies at New York amounting to \$50 a car.

### Club Meetings

The second Los Angeles meeting of the Pacific Railway Club will be held on June 11, when speakers will discuss the subject of "Co-operation of Employees and Management in Securing Proper Regulation of Highway Carriers." This meeting is in accordance with last year's decision to rotate the club's meeting places and to hold at least one meeting a year in Los Angeles.

### Auto Renting Service at P. R. R. New York Terminal

Arrangements have been completed for the installation at Pennsylvania station in New York of the Hertz Drive-yourself automobile renting service, according to a recent announcement by George Le Boutillier, vice-president of the Pennsylvania. Three different makes of automobiles will be available to railroad patrons who wish to utilize the service.

### Helm Appointed Secretary, Louisiana Public Service Commission

Effective May 19, James L. Helm has been appointed secretary of the Louisiana Public Service Commission, with headquarters at Baton Rouge, La. Mr. Helm succeeds Henry Jastremski, who died on May 15, after serving for more than 20 years as secretary of the present commission and its predecessor, the Railroad Commission of Louisiana.

### No Longer a Railroad Question

The grade crossing question is no longer a railroad question. The railroads have been here for a hundred years, but it is only since the advent of the motor vehicle that the grade crossing problem has become acute.

The problem is not due to increased operations of the railroads; on the contrary, there are fewer trains today than there were a year ago. The growth of highway traffic, including the automobile, bus and truck, which use the highways as a means of competing with the railroads, is responsible.

The motor-using public, as a whole, derives the chief benefit from elimination of grade crossings, and there is also benefit to the residents of the cities and towns. In most instances there is no great benefit to the railroads, and it is no longer equitable that there should be fixed proportions for distributing such costs, since no two crossings are alike.

—Thomas Nelson Perkins, chairman of the board, Boston & Maine, testifying before the joint committee on transportation of the Massachusetts legislature.

## R. R. Troubles Due Largely to Trucks

Jouett declares depression to blame for lesser part of present distress

Pointing out that railroad freight traffic increased 80 per cent in the first decade of the present century, 62 per cent in the second and only 9 per cent from 1920 to 1929, and that in the last mentioned period trucks increased 250 per cent, E. S. Jouett, vice-president and general counsel of the Louisville & Nashville, declares that all but a small portion of what must have been a very great increase in traffic in the last period went to the trucks. This statement he made in an address delivered before the convention of the Retail Coal Merchants' Association at Louisville on May 21.

He stated further that a check had shown that about 100,000 carloads of freight annually were being trucked into and out of Louisville alone, and that the traffic was growing in spite of the depression.

"Unless these conditions change," he continued, "the railroads, which are helpless because bound hand and foot by governmental regulations, will be completely broken down. The Louisville & Nashville throughout its history of 80 years has operated successfully and never failed to meet promptly every obligation. Three years ago its stock was selling at \$150 per share. Last week this stock sold for a fraction over \$8 per share. The same is relatively true of practically all the railroads of the country.

"It may be claimed that this situation is due to the depression. Certainly that has contributed to it, but probably only the lesser part. If the enormous traffic now being handled by the commercial trucks, the most of which under equal competitive conditions doubtless would have stayed with the railroads, has not been thus improperly diverted, the railroads would have no serious difficulty in weathering the depression storm.

"If the threatened destruction of the railroads is not averted, either government ownership and operation of the railroads will result or the railroads will be continued in a crippled, inefficient condition because of greatly curtailed traffic. The first of these alternatives would mean billions of taxes added to the people to pay for the railroads initially, and hundreds of millions annually thereafter to maintain and operate them. It would also mean the loss of the 350 millions of taxes now annually paid by the railroads, and this would involve the payment by the other tax-payers of this additional amount if they are to continue to enjoy the same schools and other blessings which the railroads' taxes have heretofore brought.

"Suppose the calamity of government ownership is averted; what will be the effect upon the public of the continued crippled condition of the railroads? First

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## Railway Committee Reports to Commons

**Urges investigation of officers' expense accounts, closing some off-line offices**

The report of the Railway Committee to the House of Commons in Ottawa last week, which was adopted practically without debate, afforded one of the major surprises of the present session. The report, which proved to be unanimous, had threatened to be one of the really large questions after the many stormy meetings of the committee. The public was prepared for acrimonious debate.

No reasons were given for the barring of debate on the report but it is believed that the fact that the report of the royal commission on transport would soon be submitted to the government and the fact that most members are anxious to get home made an agreement to silence possible. It was expected that the committee report would strongly recommend even more rigorous economies in the operation of the road, that it would urge the revision of the contract by which Sir Henry Thornton was given a residence in Montreal, and that reconsideration be given to the question of expenses generally.

Premier Bennett, however, warned the House against excessive optimism about further economies in the operation of the road.

In view of the results of the past two or three years, your committee strongly recommends that until there is a marked improvement in the earnings of the system, capital expenditures should be limited strictly to the barest necessities, always consistent with efficiency." This was the first of a series of recommendations of the railway committee.

With regard to the salary paid to Sir Henry Thornton, president of the Canadian National, the committee's report recommended that allowances over and above the contractual salary be reviewed by the directors.

A much stricter supervision of all expense accounts of Canadian National officers by a committee of directors was recommended. "A system of control similar to that in vogue in the best regulated industrial houses, finance and other institutions is required, and your committee earnestly recommends that the board of directors forthwith put into effect such effective control as is necessary in the premises," the report said.

The transaction connected with the leasing of the official residence of Sir Henry Thornton by the directors of the C. N. R., the committee said, should be investigated by the directors, with a view to ascertaining its legality and if possible obtaining its rescission.

With regard to the Canadian National offices in the United States, the report said that results with respect to freight traffic have been "fairly satisfactory," but the results achieved from passenger

traffic "have not been commensurate with the cost."

"Your committee recommends that the whole question of the New York and other off-line passenger offices should be carefully reviewed by the management in conjunction with the board of directors." It is further urged that "careful consideration be given by the management and by the board to the question of closing such of the offices, both passenger and freight, as have not achieved satisfactory results, and also of cooperating with other railway systems by joint arrangement so as to effect as much saving as possible."

The situation respecting pensions should be reviewed, in the opinion of the committee, not with any view to reducing statutory pensions but with one view to putting the three pension schemes now operating within the system "on a sound, economic basis, including, if deemed desirable, the inclusion of the system of contribution."

The committee's final recommendation expressed the conviction "that the exercise of political patronage or influence in the operation of this publicly-owned enterprise would do great injury," and urged continued vigilance on the part of all concerned "to avoid the introduction of practices detrimental to the public interest."

### Great Northern Extends Store-Door Delivery

Store-door delivery service has been established by the Great Northern in towns along its Spokane Falls & Northern branch, to meet truck competition. L.c.l. freight is carried on a passenger train leaving Spokane at 8:20 a.m., and deliveries to merchants in seven towns along the branch are made before noon.

"This merchandise service was first tried last August in the Palouse territory," said J. S. Bock, general agent of the Great Northern, in announcing an extension of the service. "It has met with success. Exceptional gains have been shown monthly since December. More and more merchants are using this service for their shipments from Spokane."

### Pennsylvania Finds Limit to I.C.C. Jurisdiction

Stating that the interstate commerce act "confers no authority on the Interstate Commerce Commission to enforce the Ten Commandments or any one of them," and that if the act were to be construed as conferring such authority it "would be beyond the constitutional powers of Congress and therefore invalid," the Pennsylvania has filed with the commission an answer to the complaint filed by Noah W. Cooper, of Nashville, Tenn., which had asked the commission to require the railroads to stop running trains on Sundays. The complaint was filed under the provision of the law giving the commission jurisdiction over rates, fares, charges, rules, regulations, and "practices," but the Pennsylvania says that running trains on Sunday is not a practice within the meaning of the law.

## Hearing on Accounting for Charitable Gifts

**I. C. C. investigation follows N. Y. Commission's order in N. Y. Telephone case**

Somebody having decided that this would be a good time to raise the question as to whether public utilities subject to commission regulation ought to be allowed to make contributions to charity and charge them to operating expenses, a hearing on the subject was held before Examiner Hansen of the Interstate Commerce Commission on May 19. The issue was precipitated by an order of the New York Public Service Commission directing the New York Telephone Company to revise its accounting for a contribution of \$75,000 to the Emergency Unemployment Relief Committee of New York City and to charge the amount to surplus instead of operating expenses. The order also applied to similar expenditures in previous years. The company contended that its accounting was in accordance with the Interstate Commerce Commission's classification, that it was subject to that commission's jurisdiction, and that it could not keep its books in two ways. While it was seeking another hearing before the state commission, the Interstate Commerce Commission ordered an investigation of the question of the proper accounting for such expenditures, and, stating that the decision would set an important precedent, invited all carriers subject to its jurisdiction to participate.

Before the hearing was over it became apparent that those most interested in the question are the state commissioners, on the theory that corporations like to hide items in their operating expenses to reinforce their arguments for higher rates, and the officers of relief organizations, who had a strong feeling that if the commission should rule that charitable contributions are not proper expenditures for utility corporations the corporation managers would be inclined to let their stockholders make their own decisions as to how much they should contribute. Representatives of the telephone companies and the railroads who testified thought that the companies were "citizens" and properly interested in relief funds affecting the welfare of their communities and said that the amounts were too small to affect rates and therefore came out of the amount left available to stockholders whether charged to general operating expenses or to surplus.

F. R. Kellogg, counsel for the Association of Community Chests and Councils, pointed out that from 19 to 23 per cent of the funds collected by community chests have been contributed by corporations and said that with the growing demands upon relief funds they would be put to it to collect the money in the face of a commission ruling that contributions for such purposes are not a proper operating expense for utilities.



When Examiner Hansen asked what difference it made to the agencies how the money was charged to accounts he replied that it would make a "colossal difference" and that corporation directors would have "cold chills" if asked for contributions under such conditions and that such a ruling would at least be a very powerful argument for a corporation officer who for any reason did not want to contribute. William Hodson, secretary-director of the Welfare Council of New York City, said that the New York relief committee had collected \$19,500,000 including pledges, of which 26.5 per cent had been contributed by corporations, and that any ruling which would make it more difficult to obtain the assistance of corporations for such work would have a very serious effect.

Roy B. Shaver, assistant comptroller of the American Telephone & Telegraph Company, said that as a practical matter it makes no difference to the telephone user how donations or contributions of this character are treated in the accounts. "If these items are charged to operating expenses, the amount is relatively so insignificant that it would have no effect upon the rates charged for service," he said. "Furthermore, the state commissions are free to establish rates ignoring such contributions, or not, as they see fit, so long as those rates are not held confiscatory by the courts. The accounting for this item, therefore, does not affect the telephone user. So far as the stockholder is concerned, the method of accounting is also of no consequence whatever. If the items are charged to expenses, the amount carried to surplus will be decreased by that amount; if, on the other hand, they are charged directly to surplus, the result will be the same. It is merely a question of classification and of the order in which the ultimate deduction from surplus is made. We are not considering gifts of corporate funds, but only such contributions as are made because in the judgment of the management they are deemed reasonable and proper expenditures in the interest of the business. The accounting for donations or contributions for charitable and like purposes made in recent years by other Bell System Companies is the same as that followed by the New York Telephone Company and is based on Case 149, Accounting Bulletin No. 11, issued under order of the Interstate Commerce Commission, dated June 26, 1916. As we interpret it, that case provides that contributions made in the interest of and for general benefit and advantage of the operations of the company shall be charged to operating expenses. The contributions under discussion are contributions of that character. The accounting prescribed has been in effect for some fifteen years with respect to telephone companies and for a longer period with respect to certain other classes of carriers. (See Account 460 Other Expenses, Classification of Operating Revenues and Operating Expenses of Steam Roads effective July 1, 1914.) During that time no question

seems to have been raised as to the fundamental propriety of the accounting prescribed by this commission. Bell System Companies subscribe to this accounting and the basic underlying principles prompting it. These principles were doubtless taken into consideration by the commission when the accounting rule was established."

John E. Benton, general solicitor for the National Association of Railroad & Utilities Commissioners, cross-examined the telephone witnesses to bring out that the state commissions would have to check the companies' accounts in any rate case to ascertain how much such contributions might amount to, whereas if they were charged to surplus they would not have to worry about it. E. V. Williamson, statistician of the West Virginia Commission, and chairman of the association's committee on statistics and accounts, testified that 25 state commissions have adopted uniform accounting classifications requiring that donations be charged to surplus and that 4 others require that they be charged to surplus, while many states do not allow such items of expenditure to be taken into consideration in rate-making.

F. A. Barnes, assistant director of the Bureau of Accounts of the Interstate Commerce Commission, testified that the telephone company's contribution had been properly charged to operating expenses and said that the commission's classification was a proper one.

E. R. Woodson, secretary of the Railway Accounting Officers' Association, introduced as a witness E. M. Thomas, comptroller of the Chesapeake & Ohio and Pere Marquette, and chairman of a committee representing the association. He said that the position of the association is that all such items should be charged to operating expenses in accordance with the Classification of Accounts prescribed by the commission and that he knew of no difference of opinion among railway accounting officers on that point. If such items were required to be charged to surplus, he said, the accounts would not reflect the facts. Mr. Thomas said that many railroads had made contributions to community chests and similar funds and that a railway company is directly interested in anything that is for the benefit of the communities it serves.

#### C. N. J. Arranges Boat-Connection Motor Coach Service

The Board of Public Utility Commissioners of New Jersey has approved the Central of New Jersey's plan to substitute buses for trains in summer services along its Atlantic Highlands branch. The bus service, provided under contract by the Boro Buses-Rollo Transit Corporation, is operated between the Atlantic Highlands pier of the Jersey Central's Sandy Hook steamers and Matawan, N. J. Municipal consents for the bus operation were obtained from the boroughs of Atlantic Highlands, Keyport, and Matawan, while the township of Middletown, the boroughs of Union Beach and Keansburg denied the consents. The certificates was therefore granted with

the stipulation that no passengers be accepted or discharged within the municipal limits of Middletown, Union Beach and Keansburg.

In prior summers the Jersey Central increased train services on this branch, but testimony at the hearings indicated that railway rolling stock used there will require replacement in the near future and that traffic on the branch was not sufficient to justify such replacements. Bus fares are the same as railway rates to points along the route.

#### Annual Meeting Freight Claim Division

A tentative program for the annual meeting of the Freight Claim division of the American Railway Association, to be held in Chicago on June 7-9, has been adopted as follows:

##### JUNE 7—MORNING

Opening business, including addresses by President Aishton and Chairman McNitt.  
Report of General Committee  
Report of Secretary  
Report of Committee on Freight Claim Prevention

##### AFTERNOON

##### Prevention Program

- 1—Damage to Fresh Fruits, Melons and Vegetables. Why the Bulge Pack?
- 2—Carload Damage: Rough Handling—Unloaded Damage
- 3—Prevention Activities of Freight Claim Conferences
- 4—General Prevention Activities

##### JUNE 8—MORNING

Report of Committee on Rules of Order Including Recodification  
Report of Committee on Overcharge Rules

##### AFTERNOON

Election of Arbitration Committees  
Election of officers and general committeemen; selection of place and dates for next session

##### JUNE 9—MORNING

Report of Committee on Loss and Damage Rules—continued  
Joint Report of Committees on Loss and Damage Rules and Overcharge Rules

##### AFTERNOON

Joint Report of Committees on Loss and Damage Rules and Overcharge Rules—continued.

#### Bond Issue for Waterways Urged

Representatives of the Mississippi Valley Association and other waterway advocates testified before the House ways and means committee on May 20 in support of the bill introduced by Representative Mansfield, chairman of the rivers and harbors committee, to expedite work on river and harbor projects authorized by Congress by financing them by means of a \$500,000,000 bond issue instead of by annual appropriations by Congress. The bill is similar to the Shipstead bill on which hearings have been held by the Senate commerce committee, and would hasten the work on the projects already authorized, the cost of which is estimated at over \$400,000,000, instead of requiring that it be done piecemeal at the rate allowed by the annual river and harbor appropriations, \$60,000,000 to \$75,000,000 a year. After a time, however, the speed at which such work is prosecuted would again depend on the rate at which the bonds were paid off, because the bill provides that not more than \$500,000,000 of the bonds for the purpose shall be outstanding at any time. Robert Isham Randolph, president of the Mississippi Valley association, in-

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## Operating Statistics of Large Steam Railways—Selected Items for the Month of March, 1932,

Region, road and year	Average miles of road operated	Train-miles	Locomotive-miles		Car-miles		Ton-miles (thousands)		Average number of locomotives on line					
			Principal and helper	Light	Loaded (thousands)	Per cent loaded	Gross. Excluding locomotives and tenders	Net. Revenue and non-revenue	Service-able	Un-service-able	Per cent un-service-able	Stored		
New England Region:														
Boston & Albany.....	1932	402	137,339	144,324	9,822	3,498	63.5	185,116	59,412	67	60	47.2	15	
	1931	407	148,570	154,094	11,731	4,027	65.9	208,236	70,509	88	42	32.6	32	
Boston & Maine.....	1932	2,063	292,666	331,328	29,383	9,044	66.2	491,072	171,952	150	142	48.6	24	
	1931	2,066	323,528	367,942	36,521	11,017	67.7	586,407	208,611	240	66	21.7	62	
N. Y., New H. & Hart....	1932	2,055	363,914	438,214	24,694	11,584	62.8	637,158	224,362	218	127	36.9	17	
	1931	2,094	391,959	458,558	22,459	13,671	64.9	736,432	268,297	262	83	23.9	31	
Great Lakes Region:														
Delaware & Hudson.....	1932	848	226,891	297,404	31,639	6,985	59.7	445,150	200,767	246	29	10.5	138	
	1931	876	261,070	347,213	37,574	8,258	59.8	513,778	224,765	248	27	9.8	122	
Del., Lack. & Western....	1932	998	362,629	398,203	48,624	11,435	64.5	667,126	265,181	210	56	21.2	41	
	1931	998	409,197	458,211	47,472	13,318	66.4	744,435	287,359	218	60	21.5	33	
Erie (inc. Chi. & Erie)....	1932	2,316	654,022	682,698	57,802	26,704	61.3	1,628,033	603,516	351	141	28.6	116	
	1931	2,316	740,677	776,183	67,079	32,627	61.2	1,970,249	745,526	383	96	20.0	109	
Grand Trunk Western.....	1932	1,021	199,200	201,028	1,861	4,891	61.1	287,670	99,420	99	49	33.1	36	
	1931	1,019	242,282	245,802	3,114	6,943	62.3	400,887	140,629	113	39	25.8	39	
Lehigh Valley.....	1932	1,343	387,827	411,085	36,072	11,059	62.6	670,768	266,582	206	136	39.7	24	
	1931	1,343	434,300	461,129	44,523	13,463	62.9	818,938	333,098	224	112	33.2	25	
Michigan Central.....	1932	2,115	399,680	399,936	10,393	11,911	58.9	700,326	224,054	125	94	42.9	30	
	1931	1,869	435,076	437,952	10,262	14,520	60.3	840,607	277,006	156	59	27.3	47	
New York Central.....	1932	6,225	1,472,867	1,616,487	91,298	52,899	60.2	3,283,828	1,313,148	669	586	46.7	118	
	1931	6,423	1,744,412	1,889,304	119,174	65,050	59.6	4,023,472	1,599,118	878	462	34.5	271	
New York, Chi. & St. L....	1932	1,660	480,836	492,403	5,278	14,205	59.8	836,618	281,677	161	83	34.0	48	
	1931	1,660	521,720	536,652	8,621	17,283	60.0	1,018,724	361,143	172	72	29.7	45	
Pere Marquette.....	1932	2,202	321,015	331,913	2,915	7,397	58.5	473,861	180,286	144	35	19.4	35	
	1931	2,201	337,672	353,118	3,154	8,615	60.7	520,682	194,309	156	28	15.0	50	
Pitts. & Lake Erie.....	1932	235	56,589	58,454	878	2,321	56.8	190,577	104,194	49	33	40.1	26	
	1931	235	86,498	88,466	1,274	3,282	58.4	262,821	144,392	58	17	22.7	29	
Wabash.....	1932	2,497	547,415	563,205	12,367	16,164	62.5	915,474	310,366	234	149	38.8	43	
	1931	2,497	733,328	764,544	13,909	21,237	61.2	1,250,125	418,607	288	121	29.6	52	
Central Eastern Region:														
Baltimore & Ohio.....	1932	6,277	1,348,192	1,563,199	156,164	37,337	58.4	2,518,395	1,074,727	901	462	33.9	262	
	1931	6,285	1,588,485	1,896,345	211,454	48,954	59.6	3,275,288	1,420,129	1,078	300	21.8	299	
Big Four Lines.....	1932	2,790	664,385	689,005	17,894	18,643	58.7	1,253,738	565,105	229	204	47.0	13	
	1931	2,721	632,629	662,016	21,008	20,042	60.5	1,292,346	576,522	287	141	33.0	66	
Central of New Jersey.....	1932	692	165,249	178,191	24,387	4,737	55.4	329,635	148,820	117	61	34.3	41	
	1931	692	192,564	209,549	33,082	5,784	57.1	397,623	177,565	149	39	20.8	49	
Chicago & Eastern Ill....	1932	939	191,714	192,336	3,186	4,142	62.0	273,498	120,982	89	71	44.3	42	
	1931	939	190,128	190,410	2,430	4,804	61.6	306,022	129,283	89	63	41.5	35	
Elgin, Joliet & Eastern....	1932	447	87,972	91,035	3,159	2,108	57.2	174,729	86,907	84	6	7.2	27	
	1931	447	114,616	118,894	5,111	2,932	60.2	228,578	115,555	77	15	16.0	17	
Long Island.....	1932	400	39,014	40,789	15,164	455	51.9	33,952	12,865	39	7	15.9	9	
	1931	400	43,833	47,150	12,257	593	52.8	43,036	16,039	40	8	16.9	..	
Pennsylvania System.....	1932	10,536	2,719,424	3,081,221	308,888	89,339	60.7	5,919,052	2,528,745	2,170	375	14.7	979	
	1931	10,668	3,285,694	3,663,616	371,728	111,980	60.8	7,413,290	3,179,900	2,224	335	13.1	767	
Reading.....	1932	1,453	444,575	478,311	46,926	11,389	57.1	831,208	383,545	307	97	24.0	93	
	1931	1,446	538,134	582,822	52,821	14,628	57.2	1,068,036	499,352	320	70	18.0	63	
Pocahontas Region:														
Chesapeake & Ohio.....	1932	3,136	794,265	838,248	32,751	30,225	55.6	2,528,440	1,350,300	550	100	15.4	229	
	1931	3,116	968,457	1,024,805	36,754	34,526	55.5	2,866,796	1,517,394	621	68	9.8	248	
Norfolk & Western.....	1932	2,258	554,678	581,343	27,329	19,754	59.6	1,604,462	831,176	447	39	7.9	200	
	1931	2,226	650,566	712,026	38,353	23,221	59.2	1,854,786	947,007	450	41	8.3	173	
Southern Region:														
Atlantic Coast Line.....	1932	5,144	617,485	619,092	9,081	12,783	58.1	709,639	238,499	380	97	20.3	89	
	1931	5,162	753,740	763,115	11,062	18,182	57.4	1,039,358	347,450	393	82	17.2	78	
Central of Georgia.....	1932	1,900	193,573	195,576	3,571	4,417	68.0	234,303	86,399	95	51	34.7	1	
	1931	1,900	245,416	246,456	3,950	5,884	69.4	321,296	128,346	112	37	25.2	1	
Ill. Cent. (inc. Y. & M. V.)	1932	6,670	1,298,019	1,307,878	21,898	30,922	59.4	2,071,795	845,744	737	181	19.7	73	
	1931	6,670	1,528,886	1,547,482	26,829	38,556	60.0	2,563,228	1,013,456	735	156	17.5	58	
Louisville & Nashville....	1932	5,262	950,894	1,010,081	28,760	19,662	57.8	1,375,130	634,558	481	228	32.2	149	
	1931	5,268	1,236,551	1,304,144	34,783	25,709	57.8	1,791,442	815,888	515	177	25.6	125	
Seaboard Air Line.....	1932	4,437	505,035	572,730	4,627	11,298	61.3	655,267	214,997	257	44	14.6	34	
	1931	4,466	578,750	591,846	7,109	14,293	59.8	865,504	303,319	262	34	11.5	25	
Southern.....	1932	6,669	1,096,524	1,107,687	19,116	24,958	65.5	1,367,238	504,773	737	198	21.2	242	
	1931	6,675	1,286,804	1,304,637	25,003	30,693	64.3	1,725,235	669,133	779	191	19.7	204	
Northwestern Region:														
Chi. & North Western....	1932	8,443	988,113	1,035,444	21,097	22,883	59.9	1,416,318	458,291	646	164	20.2	194	
	1931	8,459	1,080,233	1,139,174	29,675	28,640	63.9	1,640,513	616,151	717	151	17.4	202	
Chi. Gt. Western.....	1932	1,459	214,279	214,395	13,499	6,732	61.6	405,772	146,612	64	50	43.5	3	
	1931	1,459	240,123	240,149	13,409	8,056	60.7	478,251	174,314	114	17	13.2	14	
Chi., Milw., St. P. & Pac.	1932	11,266	1,203,284	1,270,949	63,655	29,292	59.5	1,863,197	728,921	754	163	17.8	354	
	1931	11,301	1,335,578	1,416,628	69,572	37,445	61.8	2,286,395	912,942	784	151	16.1	343	
Chi., St. P., Minn. & Om.	1932	1,714	216,410	228,620	11,016	4,134	64.6	240,405	94,046	145	29	16.4	71	
	1931	1,714	236,179	255,119	10,998	5,272	66.4	295,285	119,164	150	26	14.7	60	
Great Northern.....	1932	8,311	577,860	582,813	18,868	15,568	65.4	927,236	368,567	473	142	23.1	149	
	1931	8,342	629,523	636,702	21,861	20,439	66.5	1,216,976	523,426	480	137	22.2	132	
Minn., St. P. & S. St. M....	1932	4,325	345,960	350,969	4,279	7,231	64.6	402,563	155,377	140	57	28.8	15	
	1931	4,356	361,956	370,388	5,274	9,379	67.9	511,590	209,047	168	72	30.0	44	



## Compared with March, 1931, for Roads with Annual Operating Revenues Above \$25,000,000

Region, road and year	Average number of freight cars on line			Per cent un-serv-ice-able	Gross ton-miles per train-hour, ex-cluding locomotives and tenders	Gross ton-miles per train-mile, ex-cluding locomotives and tenders	Net ton-miles per train-mile	Net ton-miles per loaded car-mile	Net ton-miles per car-day	Car-miles per car-day	Net ton-miles per mile of road per day	Pounds of coal per 1,000 gross ton-miles, including locomotives and tenders	Loco-motive-miles per loco-motive-day
	Home	Foreign	Total										
New England Region:													
Boston & Albany.....1932	3,976	2,846	6,822	23.7	21,593	1,348	433	17.0	281	26.0	4,770	168	39.2
1931	3,458	3,084	6,542	9.5	21,255	1,402	475	17.5	348	30.1	5,587	164	41.1
Boston & Maine.....1932	11,277	7,052	18,329	12.3	23,152	1,678	588	19.0	303	24.0	2,689	118	39.9
1931	11,402	7,867	19,269	8.8	23,511	1,813	645	18.9	349	27.3	3,258	116	42.7
N. Y., New H. & Hart.....1932	16,173	10,623	26,796	6.7	24,925	1,751	617	19.4	270	22.2	3,522	117	43.3
1931	15,420	12,582	28,002	4.3	25,142	1,879	685	19.6	309	24.3	4,132	113	45.0
Great Lakes Region:													
Delaware & Hudson.....1932	11,636	2,868	14,504	3.7	25,798	1,962	885	28.7	447	26.0	7,635	131	38.6
1931	10,741	3,631	14,372	3.8	25,939	1,968	861	27.2	504	31.0	8,280	132	45.2
Del., Lack. & Western...1932	19,030	4,056	23,086	7.6	24,855	1,840	731	23.2	371	24.8	8,570	162	54.2
1931	19,529	4,794	24,323	6.2	25,612	1,819	702	21.6	381	26.6	9,287	149	58.6
Erie (inc. Chi. & Erie)...1932	36,259	10,385	46,644	4.0	37,412	2,489	923	22.6	417	30.1	8,406	115	48.6
1931	35,866	12,998	48,864	3.9	39,993	2,660	1,007	22.8	492	35.2	10,385	107	56.8
Grand Trunk Western....1932	4,584	8,817	13,401	9.6	25,482	1,444	499	20.3	239	19.3	3,140	119	44.1
1931	4,126	9,228	13,354	9.5	26,507	1,655	580	20.3	340	26.9	4,451	106	52.7
Lehigh Valley.....1932	22,278	4,358	26,636	12.1	28,697	1,730	687	24.1	323	21.4	6,403	153	42.2
1931	22,030	5,676	27,706	8.4	29,341	1,886	767	24.7	388	24.9	8,002	148	48.5
Michigan Central.....1932	25,715	17,306	43,021	7.1	31,994	1,752	561	18.8	168	15.2	3,417	122	60.4
1931	25,910	17,094	43,004	5.3	36,878	1,932	637	19.1	208	18.0	4,781	114	67.2
New York Central.....1932	81,616	69,416	151,032	15.4	33,581	2,230	892	24.8	280	18.8	6,805	107	43.9
1931	80,477	60,002	140,479	9.4	34,321	2,306	917	24.6	367	25.0	8,032	104	48.3
New York, Chi. & St. L. 1932	15,819	6,090	21,909	10.9	28,832	1,740	586	19.8	415	35.0	5,473	113	65.8
1931	15,538	8,342	23,880	6.6	30,507	1,953	692	20.9	488	38.9	7,017	105	72.1
Pere Marquette .....1932	13,260	4,126	17,386	3.5	24,800	1,476	562	24.4	335	23.4	2,641	104	60.5
1931	12,164	4,888	17,052	3.7	24,452	1,542	575	22.6	368	26.9	2,848	101	62.6
Pitts. & Lake Erie.....1932	18,761	6,099	24,860	21.2	41,406	3,368	1,841	44.9	135	5.3	14,292	108	23.2
1931	20,902	4,055	24,957	7.1	38,509	3,038	1,669	44.0	187	7.3	19,819	104	38.6
Wabash .....1932	19,197	7,948	27,145	4.8	31,973	1,672	567	19.2	369	30.7	4,010	127	48.5
1931	20,063	8,960	29,023	6.7	32,434	1,705	571	19.7	465	38.6	5,409	119	61.5
Central Eastern Region:													
Baltimore & Ohio.....1932	95,085	15,478	110,563	11.2	23,997	1,868	797	28.8	314	18.6	5,523	164	40.7
1931	93,332	21,142	114,474	6.7	25,960	2,062	894	29.0	400	23.2	7,289	151	49.3
Big Four Lines.....1932	22,714	18,140	40,854	12.9	31,489	1,887	851	30.3	446	25.1	6,533	119	52.7
1931	24,966	22,177	47,143	5.1	31,971	2,043	911	28.8	394	22.7	6,836	116	51.4
Central of New Jersey...1932	17,869	5,933	23,802	19.6	26,003	1,995	901	31.4	202	11.6	6,935	159	36.7
1931	18,082	8,014	26,096	14.7	25,889	2,065	922	30.7	219	12.5	8,275	148	41.6
Chicago & Eastern Ill....1932	5,917	2,229	8,146	14.4	24,496	1,427	631	29.2	479	26.5	4,157	142	39.3
1931	5,815	2,596	8,411	8.1	27,173	1,610	680	26.9	496	29.9	4,442	127	40.9
Elgin, Joliet & Eastern...1932	9,557	3,504	13,061	9.4	16,984	1,986	988	41.2	215	9.1	6,271	130	33.8
1931	9,108	4,807	13,915	6.0	16,558	1,994	1,008	39.4	268	11.3	8,338	124	43.5
Long Island .....1932	777	4,337	5,114	7.7	6,473	870	330	28.3	81	5.5	1,037	350	39.2
1931	749	5,126	5,875	1.0	7,045	982	366	27.0	88	6.2	1,293	359	40.0
Pennsylvania System....1932	248,975	45,339	294,314	6.6	30,269	2,177	930	28.3	277	16.1	7,742	139	43.0
1931	239,944	54,490	294,434	5.5	31,042	2,256	968	28.4	348	20.2	9,615	130	50.9
Reading .....1932	38,841	8,139	46,980	6.0	22,599	1,870	863	33.7	263	13.7	8,516	152	41.9
1931	36,853	9,789	46,642	3.4	23,735	1,985	928	34.1	345	17.7	11,137	147	52.6
Pocahontas Region:													
Chesapeake & Ohio.....1932	47,561	6,221	53,782	5.8	43,096	3,183	1,700	44.7	810	32.6	13,891	88	43.2
1931	48,684	7,667	56,351	3.3	39,901	2,960	1,567	43.9	869	35.6	15,707	90	49.7
Norfolk & Western.....1932	40,671	3,785	44,456	9.4	41,463	2,893	1,498	42.1	603	24.1	11,875	120	40.4
1931	40,057	5,762	45,819	1.0	40,880	2,851	1,456	40.8	667	27.6	13,726	126	49.3
Southern Region:													
Atlantic Coast Line.....1932	28,682	7,362	36,044	7.8	20,261	1,149	386	18.7	213	19.7	1,496	121	42.5
1931	27,446	9,555	37,001	5.4	22,254	1,379	461	19.1	303	27.6	2,171	113	52.6
Central of Georgia.....1932	8,077	1,654	9,731	23.5	20,214	1,210	446	19.6	286	21.5	1,467	133	44.0
1931	6,871	2,905	9,776	11.3	20,298	1,309	523	21.8	424	28.0	2,179	136	54.2
Ill. Cent. (inc. Y. & M. V.) 1932	54,098	11,773	65,871	16.9	24,708	1,596	652	27.4	414	25.5	4,090	145	46.7
1931	51,272	15,181	66,453	7.9	25,427	1,677	663	26.3	492	31.2	4,901	143	57.0
Louisville & Nashville...1932	52,867	6,009	58,876	16.4	21,436	1,446	667	32.3	348	18.6	3,890	157	47.3
1931	51,700	8,747	60,447	11.6	20,962	1,449	660	31.7	435	23.8	4,996	151	62.4
Seaboard Air Line.....1932	15,363	5,637	21,000	4.4	20,626	1,297	426	19.0	330	28.3	1,563	132	55.5
1931	16,605	7,246	23,851	4.5	21,030	1,495	524	21.2	410	32.3	2,191	131	65.2
Southern .....1932	56,957	8,544	65,501	14.2	20,018	1,247	460	20.2	249	18.8	2,442	158	38.9
1931	54,295	12,304	66,599	13.0	20,138	1,341	520	21.8	324	23.1	3,234	158	44.2
Northwestern Region:													
Chi. & North Western...1932	45,652	17,571	63,223	6.4	20,823	1,433	464	20.0	234	19.5	1,751	145	42.1
1931	53,750	20,833	74,583	9.0	21,112	1,519	570	21.5	266	19.4	2,350	138	43.4
Chi. Gt. Western.....1932	5,125	3,356	8,481	10.5	30,657	1,894	684	21.8	558	41.6	3,242	143	64.7
1931	4,735	3,497	8,232	6.7	32,067	1,992	726	21.6	683	52.0	3,854	128	62.2
Chi., Milw., St. P. & Pac.1932	63,761	12,256	76,017	3.0	23,100	1,548	606	24.9	309	20.9	2,087	137	47.0
1931	60,593	13,842	74,435	2.6	24,366	1,712	684	24.4	396	26.2	2,606	127	51.3
Chi., St. P., Minn. & Om.1932	2,227	7,517	9,744	8.8	16,505	1,111	435	22.7	311	21.2	1,770	135	44.5
1931	2,913	7,877	10,790	7.1	17,627	1,250	505	22.6	356	23.7	2,243	125	48.7
Great Northern .....1932	45,027	7,922	52,949	6.0	23,242	1,605	638	23.7	225	14.5	1,431	147	31.5
1931	43,355	7,700	51,055	5.3	25,899	1,924	831	25.6	331	19.4	2,024	135	34.5
Minn., St. P. & S. St. M.1932	20,527	2,720	23,247	4.6	17,392	1,164	449	21.5	216	15.6	1,159	123	58.2
1931	20,213	3,263	23,476	3.7	19,912	1,413	578	22.3	287	19.0	1,548	108	50.5
Northern Pacific.....1932	42,502	3,793	46,295	9.6	22,194	1,531	624	22.4	205	12.9	1,484	164	32.8
1931	42,162	4,779	46,941	9.8	26,077	1,81							

## NEWS

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roduced a number of witnesses representing that organization, and Frank R. Reid, president, and S. A. Thompson, secretary-treasurer of the National Rivers and Harbors Congress, also testified in support of the bill. Representatives of the railways were to be heard on Thursday.

### National Safety Contest Winners

Winners in the eight groups of the annual Steam Railway Accident Prevention contest conducted by the National Safety Council, in which Class I railroads in the United States competed, were awarded trophies at a dinner held at the Stevens hotel, Chicago, on May 17. The awards were made by C. W. Bergquist, president of the National Safety Council, who said that if all Class I railroads of the country had been able to attain the average rate of the winner there would have been an additional saving of 5,426 employee lives during the past eight years. The Union Pacific system was awarded first place for Group A, with a rate of 1.86 casualties per million man-hours for 1931. A lower casualty rate, 1.59 was attained by the Chicago & North Western, but because that road won first place last year, it could not compete for first place this year. On the other hand, the Chicago & North Western was awarded first place last year because the Union Pacific could not be awarded first place two years in succession. Group B was won by the Union Pacific Railroad company with a casualty rate of 1.66, because the Atlantic Coast Line with a casualty rate of 1.10 could not be awarded first place two years in succession. Winners of other groups and their casualty rates are as follows: Group C, the Oregon-Washington Railroad & Navigation Company, 1.69; Group D, the Los Angeles & Salt Lake, 1.88; Group E, the Gulf, Mobile & Northern, 1.27; Group F, the Ann Arbor, .96; and Group G, the Green Bay & Western, .77. In the Switching and Terminal division, the following lines won: Group A, the Union Railroad Company, 1.89; and Group B, the Conemaugh & Black Lick, 1.68. The St. Louis zone of the Pullman Company won first place in its group with a casualty rate of 0.79.

Special commendation was given the

Pacific Lines of the Southern Pacific for a non-fatality record among employees for 207 consecutive days. The Minneapolis & St. Louis was also mentioned for a continuous non-fatality employee record since June, 1928.

The progress made by railroads in reducing employees' casualties in all steam lines is shown in the eight year averages. There were 685 employee deaths last year as compared with 2,056 in 1923, a reduction of 1,371 fatalities or 66.58 per cent. During the same period injuries were reduced from 127,956 to 21,353, or approximately 86 per cent.

### Bar Harbor Service Quickened

The Bar Harbor express, leaving Washington over the Pennsylvania at noon, will this year run through to Maine terminals on a quicker schedule and passengers will arrive at Bar Harbor three hours earlier than heretofore. Passengers will leave the train at Ellsworth, Me., and travel thence to Bar Harbor by bus. This train runs four days a week, Tuesday, Wednesday, Thursday and Friday, as also will the Waterville Express, which is to begin running on June 14.

### Sale of U. S. Barge Lines Not Contemplated

Discussing reports that a sale of the barge lines of the Inland Waterways Corporation was being contemplated as a part of the government's economy program, Secretary of War Hurley has stated to newspaper men that there is no prospect of any sale at this time and that the reports had doubtless originated from the fact that he had recently asked the Interstate Commerce Commission to make an appraisal of the property, as required by the Denison act. He said he had requested the appraisal, which is now being made, because there had been some talk to the effect that an offer might be made by private interests, in order that he might be prepared to consider the matter, but that the Denison act specifies numerous requirements which must be met before the lines could be transferred to private operation.

### Burlington Relief Department 43 Years Old

The relief department of the Chicago, Burlington & Quincy, which was organized on June 1, 1889, has issued its report for 1931. It emphasizes the importance of joint contributions in retire-

ment insurance plans. Since June 1, 1889 the department has received \$22,112,593, of which \$21,162,845 represents contributions by members, \$143,313 interest paid by the railroad, \$733,182 income from investments, \$28,604 profit from investments and \$44,648 miscellaneous receipts. During the same period, the department has paid \$20,745,899 in death and disability benefits, while at the present time investments amount to \$1,115,785 and cash on hand to \$250,908. During this period the railroad company has contributed \$4,049,405 in establishing, operating and maintaining the department. In addition, it has given, without charge, the time of officers and clerks in other departments of the service used in attending to relief department business, the service of the law department, the rent, care, heating and lighting of the general offices of the department in Chicago and medical examiners' offices and the use of telegraph, transportation and other facilities.

Besides the relief department plan, a pension plan has been in effect since January 1, 1922 and since that time, the pension disbursements have amounted to \$6,429,486, all of which is a voluntary contribution of the company.

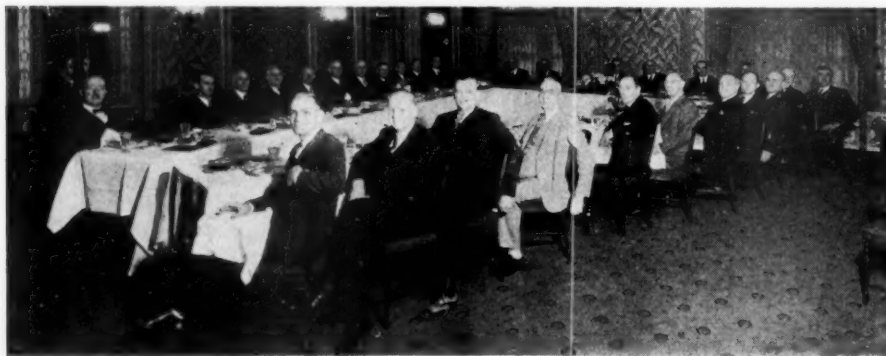
### Pennsylvania To Precool All Sleeping Cars

The Pennsylvania's plans for the coming summer call for the precooling, when necessary, of all sleeping cars operated on the system, not only those making long trips, but also those which make single night runs between the smaller cities. Extensive refrigerating apparatus is now being installed at all of the principal terminals and it is expected that the temperature of all sleeping cars can be reduced at least 10 deg.

The company's plans for the installation of continuous cooling and air conditioning in dining cars this summer include 38 diners, on most of which the equipment is practically finished. This will provide air-conditioned diners on all of the principal limited trains and also on the hourly trains between New York and Philadelphia, and between New York and Washington.

The dining cars will be equipped with an ice-water cooling system which was first tested last summer. From ice containers carried under the car, ice water is pumped through radiator coils located in each end of the car where blowers force purified air over the cold radiators into the dining room. The process not only cools the air, but also lowers the humidity and adds approximately 25 per cent of filtered fresh air to the constant circulation of the cooled and purified air. Temperature regulation within the cars will be governed by the outside temperature and maintained at a degree which will guard against sudden changes for passengers entering or leaving the dining cars.

The Pennsylvania is also testing several mechanical refrigerating systems. The ice-water systems have been so installed that they can be converted if desired into mechanical units when the service trials are completed.



The Trophies Were Awarded at the Annual Banquet

Continued on next left-hand page





# SUPER-POWER

## LOCOMOTIVES CUT OPERATING COSTS

A study of actual operating data on one road showed that Super-Power Locomotives reduced operating costs 34%

**DECREASED FUEL CONSUMPTION OF 37.1%**  
(PER 1000 GROSS TON MILES) Was Partially Responsible For This Saving



Super-Power Locomotives produce maximum gross ton miles per train hour with minimum fuel consumption.

## R. R. Troubles Due Largely to Trucks

(Continued from page 921)

there are the employees, who constitute a substantial proportion of our citizenship. Take the Louisville & Nashville again, as an example. Five years ago it had 53,000 men and women upon its payroll. Owing to the reduction in its business it has had to let out 26,000 of these, so that it now has only 27,000 employees. This reduction, of course, is not all due to truck competition, but it had a large part in it. This process has been heart-breaking, but inevitable. This loss likewise affects the merchants, farmers, mechanics and others who were accustomed to supply the daily needs of these employees.

"The great commercial and industrial institutions of the country that supply the lumber, coal, steel and numerous other commodities employed by the railroads have suffered a similar curtailment in their sales, which has meant greatly reduced production with consequent unemployment and a loss of business that in some instances already has led to bankruptcy.

"If the trucks, because of the preferential treatment they are receiving, are enabled to continue to get the commodities carrying the higher rates then, the Commission will have to increase very substantially the rates upon heavy commodities and long hauls. There is no other alternative. That would be a distinct disadvantage to coal dealers, for coal would be one of the first commodities affected; and while dealers ordinarily can and should pass such an increase to the consumer, the effect of the increase would be to curtail consumption and also to encourage the use of gas, oil and other competing fuels. Those who actually pay the higher rates are not the only ones interested. The effect would be to elevate the transportation charge for the whole country.

"Billions of dollars have been spent on our highways, much of it being the proceeds of bond issues which are now resting with crushing weight on nearly every county in every state. And yet already there are many tragic instances of roads that are or will be worn out by the trucks long before the bonds mature, leaving the counties without roads and without further credit.

"Even if trucks did not vastly increase the costs of highway construction and maintenance, why should the 95 per cent of users, the very ones for whom the highways were constructed, be subjected to annoyance and danger at the hands of 5 per cent or less, especially when the latter are permitted to conduct their business on the roads only by grace and not by right? I say this because the Supreme Court has held that the use of highways for conducting a transportation business can be conditioned, or additionally taxed, or even prohibited.

"There is no answer to that question. There is, however, a comparatively simple solution of the danger problem and the wear and tear problem. It is the fixing of a proper limit to the size and

weight of all trucks that use the highways outside of cities. The states are generally waking up to the necessity for this. For instance, there is a maximum gross weight limit of vehicle and load of 16,000 pounds in Florida, 16,500 pounds in Oregon and 18,000 pounds in Kentucky while Texas has a maximum load limit of 7,000 pounds. Kentucky has also abolished the trailer as too dangerous to justify permitting its use."

## Non-Productive Works Opposed by President

(Continued from page 920)

year more than 28,000 men distributed over 20 different states. An arrangement was concluded by which the Reconstruction Corporation undertook to stand behind the plan to the extent of \$27,000,000, the railway company finding the balance. This \$27,000,000 is to be loaned on sound securities and will be returned, capital and interest, to the corporation. The Reconstruction Corporation is acting as agent to make available otherwise timid capital for the Pennsylvania Railroad in providing employment. There is no charge upon the taxpayer.

"On the other hand the proposal of the House of Representatives is to spend \$132,000,000 for subsidies to the states for construction of highways. This would be a direct charge on the taxpayer. The total number of men to be directly employed is estimated at 35,000 and indirectly 20,000 more. In other words, by this action we would give employment to only 55,000 men at the expense by the Government of \$132,000,000, which will never be recovered.

"In the one instance we recover the money advanced through the Reconstruction Corporation, we issue no Government bonds, we have no charge on the taxpayer. In the other instance, we have not only a direct cost to the taxpayer but also a continuing maintenance charge, and furthermore, the highways in many sections have now been expanded beyond immediate public need.

"These proposals of huge expansion of 'public works' have a vital relation to balancing the federal budget and to the stabilizing of national credit. The financing of 'income-producing works' by the Reconstruction Corporation is an investment operation, requires no congressional appropriation, does not unbalance the budget, is not a drain upon the treasury, does not involve the direct issue of Government bonds, does not involve added burdens upon the taxpayer either now or in the future. It is an emergency operation which will liquidate itself with the return of the investor to the money markets."

## Rio Grande Withdraws Petition to Operate Buses and Trucks

The Denver & Rio Grande Western, which applied to the Public Utilities Commission of Colorado for permission to supplant steam strains with buses and trucks on 36 miles of branch line between Lake Junction, Colo., and Lake City, has withdrawn its application.

## "Bootleg Cream"

Milk and cream brought into New York City must be delivered under the strict regulations of the Board of Health, and any which is questionable or which comes from sources not approved by the city government is subject to confiscation. In accordance with this practice, large quantities of cream have recently been seized and destroyed, and three local distributors have lost their licenses. The cream was brought in by motor trucks and is referred to by city officials as "bootleg cream." It came, evidently, from points west of New York state, yet the trucks arrived by way of the Connecticut border. Other trucks came through the Holland tunnel under the Hudson River. Over-supply in the west has reduced prices and rendered it profitable to make shipments long distances by truck.

## Ex Parte 103 Increase Has Proved Inadequate

(Continued from page 920)

"The Interstate Commerce Commission's estimate of the yield from the increased rates during the fifteen months period was between \$100,000,000 and \$125,000,000. In making this estimate, the 1930 freight revenue was apparently used as a basis, the 1931 reduction trend being applied thereon. The estimate contemplated that the increases would be applicable not only to interstate business, but also to all traffic handled in intrastate business. The estimate did not contemplate the drastic reductions in railroad traffic thus far occurring in 1932.

"The Railroad Credit Corporation will receive, during the year 1932, the increased rates accruing to the participating carriers during the period from January 4, 1932, to October 31, 1932, inclusive. Our present estimate is that the ten months period will make available to the Credit Corporation, for purposes of the plan, the approximate sum of \$60,000,000. According to present indications, requirements for loans to meet fixed interest obligations during the year 1932 will exceed \$100,000,000."

## Freight Train Makes 33.7 m.p.h. Every Day

The "Speed Witch," fast through night freight of the Pennsylvania and the New York, New Haven & Hartford, between Baltimore and Boston, has now been in service one full year and a statement issued by the roads expresses satisfaction with the experiment. The rate of speed, 33.7 miles an hour for the whole distance, including stops, has been maintained 100 per cent, or very nearly so. On the south-bound trip, this train makes 36.6 miles an hour between the two cities, 412 miles; and between Greenville (Jersey City) and Baltimore, 178 miles, the speed is 41.9 miles an hour.

## Supreme Court To Hear Argument in Construction Case

The Supreme Court of the United States has announced that it will hear argument in the case in which the Interstate Commerce Commission ordered the Oregon-Washington Railroad & Navigation Company to construct a 185-mile extension from Crane, Ore., to Crescent Lake through territory which the carrier had not undertaken to serve. Three judges sitting in the district court for the district of Oregon held that the order was beyond the commission's powers and the commission appealed from the decision.

## Cut in Cotton Rates Authorized

A maximum reduction of 20 per cent in freight rates on cotton between points in the Mississippi valley, southeastern, and Carolina territories, to meet the rates of unregulated water and truck carriers, has been authorized by the Interstate Commerce Commission on application of the railroads for permission to make the rates effective on short notice, and prob-

Continued on next left-hand page



# **CUT DOWN** pounding wedges and you **CUT DOWN** maintenance

Every pounding wedge shoves maintenance costs a little higher.

To keep running gear in condition keep out the slack. Never let it start to accumulate and develop into a pound.

This maintenance prevention is the function of Franklin Automatic Driving Box Wedges.

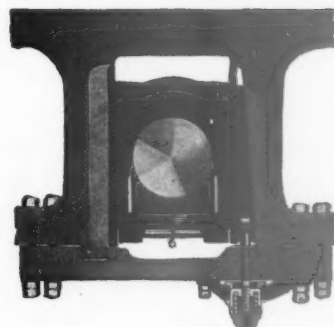
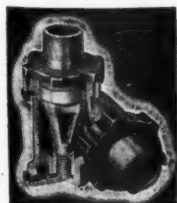
Ordinary wedges even if properly set when cold cannot be right when the engine is at working temperature. Only Franklin Automatic Adjustable Wedges can keep wedge adjustment always right and thus bar out slack.

Franklin Wedges adjust themselves with every turn of the driver, providing for expansion as temperatures increase.

They protect the foundation of the locomotive and keep maintenance in check. They help the long runs.

#### **THE FRANKLIN SLEEVE JOINT**

**Saves gaskets and  
lowers maintenance**



## **FRANKLIN RAILWAY SUPPLY COMPANY, INC.**

NEW YORK

CHICAGO

MONTREAL

ably will become effective about June 1. The commission has also granted fourth section relief so that the maximum reductions may be made effective at competitive points without reducing the intermediate rates more than necessary. This follows a long series of rate controversies resulting from reductions made by truck operators, barges on the Mississippi river and ocean steamship carriers, which led to so many reductions by the railroads that it was found necessary to make a comprehensive reduction.

### Smoke Abatement to be Discussed at Toronto

The Smoke Prevention Association will hold its twenty-sixth annual convention June 7 to 10, inclusive, at the Royal York Hotel, Toronto, Ont., during which time the subject of smoke abatement will be discussed both from a purely practical standpoint and from its more technical aspects by city and industrial engineers of prominence. The program of addresses to be presented at the Railroad Session, June 8 and 9, is as follows:

Wednesday, June 8  
2 p. m.

Opening address: H. T. Malcolmson, vice-president and general manager, Toronto, Hamilton & Buffalo

The Modern Locomotive—Influence on Smoke Abatement and Fuel Economy, by W. G. Black, assistant vice-president, Chesapeake & Ohio

Railway Stationary Power Plant Practices Recommended To Reduce Smoke and Promote Economy, by Ian M. MacLaren, president, Rochester & Pittsburgh Coal Company of Canada

Thursday, June 9  
10 a. m.

Smoke Abatement and Fuel Economy Practices on European Railroads, by L. Richardson, chief mechanical officer, Boston & Maine

Progressive measures adopted to abate smoke by their respective railroads, to be outlined by J. W. Hughes, electrical engineer, Canadian Pacific, and R. J. Needham, mechanical and electrical engineer, Canadian National

Influence of the Modern Stoker on Locomotive Smoke Abatement and Fuel Economy, by F. P. Roesch, sales manager, Standard Stoker Company

Effect of Recent Developments in Locomotive Front-End Construction, by L. R. Pyle, vice-president, Locomotive Firebox Company

2 p. m.

A general discussion on smoke abatement and fuel economy practice to be participated in by: D. C. Buell, director, Railway Educational Bureau

J. D. Clark, chief fuel supervisor, Chesapeake & Ohio

C. P. Dampman, supervisor fuel economy, Reading Company

S. A. Dickson, fuel supervisor, Chicago & Alton

J. B. Irwin, chief smoke inspector, Chicago & North Western

J. B. Hurley, general road foreman and fuel supervisor, Wabash

W. R. Sugg, supervisor fuel conservation, Missouri Pacific

### Veterans Commandeer Box Cars

Six companies of the Illinois National Guard were ordered to East St. Louis, Ill., on March 23 when 400 World War veterans, en route to Washington, D. C., to present demands for the payment of a bonus, greased the rails of the Baltimore & Ohio with soap, thus tying up a train of 30 cars of perishable freight. The expedition started at Portland, Ore., and at Council Bluffs, Iowa, commandeered eight freight cars and forced the crew of a Wabash freight train, leaving for St. Louis, to take the cars along. At East St. Louis the "bonus army" endeavored to negotiate with the Baltimore & Ohio for transportation to Washington

and when denied the use of box cars retaliated by greasing the rails. As a result only three freight trains were able to leave the yards during the day. After news of the summoning of troops became known, the veterans released the freight cars and the situation eased.

### Freight Traffic in March

Freight traffic moved by the Class I railroads in March amounted to 23,579,783,000 net ton-miles, according to reports compiled by the Bureau of Railway Economics. Compared with March, 1931, this was a reduction of 6,380,877,000 net ton-miles, or 21.3 per cent, and it was a reduction of 11,720,852,000 net ton-miles, or 33.2 per cent, under March, 1930. The Eastern district, reports a reduction of 17.4 per cent, the Southern 23.9 per cent, and the Western 25.8 per cent.

The movement for the first three months of 1932 amounted to 68,139,762,000 net ton-miles, a reduction of 22 per cent, under that of the corresponding period of 1931, and of 35.9 per cent under that of the same period in 1930. The Eastern district for the three months reported a reduction of 20.1 per cent, the Southern a reduction of 24.3 per cent, and the Western 23.9 per cent.

### Western Railway Club Elects New Officers

The annual dinner and regular monthly meeting of the Western Railway Club was held Monday evening, May 23, at the Hotel Sherman, Chicago, with an attendance of about 500 members and guests. C. A. Gill, assistant to chief motive power and equipment, Baltimore & Ohio, Baltimore, Md., addressed the club on "The Russian Situation as Observed by an American Railroad Man."

A brief business meeting was held just preceding Mr. Gill's address, at which the following officers were elected for the ensuing year: President, O. E. Ward, superintendent of motive power, Chicago, Burlington & Quincy, Chicago; first vice-president, J. E. Bjorkholm, assistant superintendent of motive power, Chicago, Milwaukee, St. Paul & Pacific, Milwaukee, Wis.; second vice-president, C. J. Wymer, superintendent of the car department, Chicago & Eastern Illinois, Danville, Ill.; treasurer, J. W. Fogg, MacLean-Fogg Lock Nut Company, Chicago; secretary, J. H. Nash, Dri-Steam Valve Company, Chicago. The directors are: W. A. Bender, master car builder, Chicago & Alton, Bloomington, Ill.; B. J. Farr, general superintendent of motive power and car equipment, Grand Trunk Western, Battle Creek, Mich.; J. T. Gillick, vice-president, Chicago, Milwaukee, St. Paul & Pacific, Chicago; F. R. Mays, general superintendent of motive power, Illinois Central, Chicago; F. F. McCarthy, master mechanic, New York Central, Collingwood, Ohio; J. H. Nash, Dri-Steam Valve Company, Chicago; J. H. Reisse, mechanical assistant to vice-president, Chicago, Burlington & Quincy, Chicago; L. A. Richardson, general superintendent of motive power, Chicago, Rock Island & Pacific, Chicago; C. T. Ripley, chief mechanical engineer, Atchison,

Topeka & Santa Fe, Chicago; G. F. Slaughter, American Steel Foundries, Chicago; J. C. Shreeve, superintendent of motive power, Elgin, Joliet & Eastern, Joliet, Ill.; A. W. Turner, assistant division master mechanic, Michigan Central, Niles, Mich.

## Foreign

### Slip Coaches Disappearing from British Railways

Slip coach service, a long established feature of British passenger train operation seems definitely destined to disappear, says Modern Transport (London) in a recent article commenting on drastic reductions which have been made by the Great Western in such service. The slip coach service is a system whereby a section of a through train is released at an intermediate station where the train is not scheduled to stop; it enables the railways to give express train service at less important stations without the necessity of stopping through trains.

Slip coaches, the article continues, first made their appearance on the Great Western in 1858, and by 1914 there were 74 in service on that railroad and a total of 181 on all railways of Great Britain and Ireland. In 1930, only 45 remained in service, 35 of which were on the Great Western. The latter has now reduced its number to 26. The cost of the service and the inability to afford passengers in the slip coach section access to the train's dining car are given as among the reasons why the Great Western is curtailing the service. The present G. W. R. time tables show scheduled stops of several important trains at stations which were previously served by slip coaches.

### Italian Government Railroad Shows Small Net Profit

The government-owned Italian railroad, valued at \$2,052,630,000 and constituting the major part of Italy's transportation system, reported net operating income of 584,000,000 lire (approximately \$29,346,000), for the fiscal year ending June 30, 1931, according to a consular report from Milan. After payment of interest and sinking fund requirements on funded debt, net profit amounted to 10,000,000 lire (\$502,500). The report points out that informed circles were of the opinion that the railroad, which is the largest organization in Italy aside from the government, would not be able to show even a small profit from operations.

Increased production of wheat in the interior of Italy, which cut down the tonnage of wheat moving from ports to points of consumption, was one of the factors which reduced revenues in the past fiscal year, while expenses were cut by drastic retrenchments wherever possible. These included reduction of wages and personnel, and saving of fuel. The railroad indicated in its report that it performs for the government without compensation postal and other services, which it valued at 260,000,000 lire.

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THERE'S MORE TO SECURITY  
ARCHES THAN JUST BRICK



## Good Brick Is The Foundation Of A Good Arch

- Design the Arch soundly; apply it properly and service it carefully.
- Then back up this good work with good Arch Brick and you get Arch satisfaction.
- To be sure of good Brick from convenient locations American Arch Company supplies the railroads exclusively from the following plants:—

**HARBISON-WALKER  
REFRACTORIES CO.**

Pennsylvania  
Ohio  
Kentucky  
Alabama  
Missouri

**NORTH AMERICAN  
REFRACTORIES CO.**  
Pennsylvania  
Kentucky

**IRONTON FIRE BRICK CO.**  
Ohio

**DENVER SEWER PIPE  
& CLAY CO.**  
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**ATHENS BRICK & TILE CO.**  
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**MOULDING-BROWNELL CORP.**  
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**DIAMOND FIRE BRICK CO.**  
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**DOMINION FIRE BRICK &  
CLAY PRODUCTS LTD.**  
Saskatchewan, Canada

**CANADA FIRE BRICK  
CO. LTD.**  
Ontario, Canada  
Quebec, Canada

# AMERICAN ARCH CO.

Incorporated  
NEW YORK • CHICAGO  
**LOCOMOTIVE COMBUSTION  
SPECIALISTS**

## Equipment and Supplies

### FREIGHT CARS

THE WESTERN MARYLAND is inquiring for prices on the conversion to drop end cars of 150 gondola cars of 70 tons' capacity and 61 ft. long inside.

### PASSENGER CARS

THE BOSTON & MAINE has under consideration the question of buying a number of gas-electric or oil-electric rail motor cars.

### IRON & STEEL

THE NEW YORK, NEW HAVEN & HARTFORD.—A contract for 100 tons of steel to be used in bridge work on this road at Buckland, Conn., has been let to the Berlin Construction Company, Berlin, Conn., through the contractor, Lathrop & Shea Company, New Haven.

NEW YORK CENTRAL.—Bids will be received by F. B. Freeman, chief engineer of the New York Central Railroad, New York, until 12 o'clock noon, June 7, daylight saving time, for approximately 10,000 tons of structural steel for use in connection with its west side improvement project, New York City.

### SIGNALING

THE CHESAPEAKE & OHIO has ordered from the Union Switch & Signal Company a mechanical interlocking, 20 levers, for installation at KO Cabin, South Ruffner, W. Va.

### MISCELLANEOUS

THE NEW YORK CENTRAL RAILROAD will receive bids until 12 o'clock noon, Daylight Saving Time, June 10, covering its requirements of oil, gasoline and lubricants, for the third quarter of 1932.

THE LEHIGH VALLEY is inquiring for prices on line materials including

105,000 cross-arm pins  
21,000 cross-arm braces  
10,500 lag screws  
12,500 machine bolts  
1,260 double-arming bolts  
and a quantity of transmission wire.

THE CHILEAN STATE RAILWAYS have divided an order for 160 sets of draft gears between W. H. Miner, Inc., and the Cardwell Westinghouse Company. The railways have also placed some small miscellaneous orders for coupler parts, with the National Malleable & Steel Castings Company.

## Supply Trade

The Hennessy Lubricator Company has moved its office from 136 Liberty street to 75 West street, New York City.

The American Cable Company, New York, announces that the Wickwire Spencer Steel Corporation, New York, has recently been added to the list of wire rope manufacturers licensed to manufacture preformed wire rope under the American Cable Company's patents. Eight other companies in the United States are licensed to make preformed wire rope.

A merger of the Waugh Equipment Company with general headquarters at Depew, N. Y., and the Firebar Corporation, Cleveland, Ohio, has been consummated, effective May 24. The present name of the Waugh Equipment Company will be continued as the name of the consolidated corporation. J. S. Thompson, president of the former Firebar Corporation, has been elected chairman of the board and A. J. Pizzini, president of the Waugh Equipment Company, continues as president of the new corporation. R. J. O'Brien has been elected executive vice-president and H. A. Ransom, W. M. Roche, and M. P. Van Wert have been elected vice-presidents. The executive headquarters and sales offices will continue in New York City. Sales offices will be maintained in Chicago, St. Louis, Mo., Cleveland, Ohio, and Montreal, Que., with general offices, laboratories, etc., at Depew, N. Y. The Firebar Corporation was organized some three years ago for the sale of a new design of locomotive grate, which has become generally known as Firebars.

### OBITUARY

#### Edward B. Leigh

Edward B. Leigh, president of the Chicago Railway Equipment Company, Chicago, who died on May 17 at his ranch in Center Point, Kerr county, Tex., was born in Townsend, Mass., on April 13, 1853 and at the age of 15 entered the employ of the Pennsylvania in the offices at St. Louis, Mo. In 1875 he left the employ of the railroad to become assistant secretary of the St. Louis Grain Elevator Company, which position he held until 1882, when he re-entered the railway field as manager of the American Brake Company which later was absorbed by the Westinghouse Air Brake Company. In 1887 he organized the National Hollow Brake Beam Company to make and distribute a metal trussed brake beam. In 1892, in order to broaden his activities, he organized the Chicago Railway Equipment Company, which took over the business of the National Hollow Brake Beam Co., the American Brake Beam Company and other companies. From the beginning, Mr. Leigh filled the office of vice-

president and general manager and in 1906 was elected president, the position he was holding at the time of his death. Apart from his immediate business interests, but springing from them, Mr. Leigh devoted much time, thought and energy to the many problems and to the complex conditions surrounding and affecting industry in general, especially to



Edward B. Leigh

such as bear upon the great railway systems of the country. Throughout his career he had been active in various associations, having been a charter member and a director of the Railway Business Association and a director of the National Association of Manufacturers and a member of the National Industrial Conference Board.

PRELIMINARY SURVEYS of the proposed railway from Haifa, in Palestine, across the northern part of the Arabian desert to Bagdad, in Irak, have recently been completed by Rendel, Palmer & Tritton, consulting engineers, according to the Railway Gazette (London). The work, begun last October and carried out by a force of 540 engineers and surveyors assisted by members of the British Royal Air Force and the Royal Engineers, is the third exploration of the projected route, others having been made by the British Army at the close of the war and later by the Irak Railways.

The single-track line, as determined by this latest survey, will be 685 miles long; will take five years to complete, and will provide an easy land route between the eastern Mediterranean and northwestern India. Lack of water; temperature variations of from 20 deg. F. to 110 deg.; elevations varying from 830 ft. below sea-level to 3,000 ft. above sea-level, and the necessity of laying 150 miles of track across country composed entirely of lava boulders are expected to constitute the chief difficulties of construction. Seven tunnels will be required, as well as 10 viaducts for the steep ascent from the Jordan valley into Moab and a bridge at least 1,658 ft. long across the Euphrates river near Hit.

Continued on next left-hand page





300 H. P.  
Total Weight  
131,000 lb.  
Tractive Power,  
Starting, 39,300 lb.

## ALCO DIESEL LOCOMOTIVES

LARGE annual savings in operating cost, which cannot be disregarded, may be secured by the installation of Diesel Locomotives in existing switching service—the extent of these savings depending on whether the Diesel Locomotive can be used for a single eight-hour trick or for three tricks a day.

However, from these savings we must deduct interest and depreciation on the new investment.

At some point within this service range, the savings in operating cost will show a margin of profit over and above the carrying charges—this point depending upon the extent the high availability of the Diesel Locomotive can be utilized.

And this is not the whole story, for in many cases such costs as maintenance, engine house force, and coal and water chutes can be greatly reduced—and there is practically no noise or smoke.

Where the more intensive switching service prevails, the Diesel Locomotive provides an opportunity for an exceedingly attractive investment.

**American Locomotive Company**  
30 Church Street New York N.Y.

600 H. P.  
Total Weight  
200,000 lb.  
Tractive Power,  
Starting, 60,000 lb.



## Construction

**DELAWARE, LACKAWANNA & WESTERN.**—This company has awarded to the N. D. Peters Company, Inc., Utica, N. Y., a contract for the elimination of a grade crossing at Plank road, 0.3 miles west of Richfield Junction station, Paris, N. Y. Elimination will be accomplished by carrying the highway over the present grade of the railroad at a point 990 ft. east of the existing crossing of the D. L. & W. and the Utica-Bridgewater county highway No. 559 (Main street, Cassville, N. Y.), which latter crossing is located one-half mile west of Richfield Junction station, and is being considered for elimination. Separation of grades at the Plank road crossing involves the use of 142 tons of reinforcing steel and the placing of 41,000 lin. ft. of treated foundation piling, 2,141 cu. yd. of reinforced concrete, and 1,355 sq. yd. of reinforced concrete paving.

**ERIE.**—The Public Service Commission of New York has approved bids submitted by the Newhall Company, Cleveland, Ohio, for reconstruction of the railroad bridge carrying the Erie tracks over the Genesee-Avon county highway, Avon, N. Y., and by the American Bridge Company, New York, for furnishing and delivering required structural steel. The Erie has also received permission from the Board of Public Utility Commissioners of New Jersey to proceed with the elimination of a grade crossing at Passaic avenue, Kearny, N. J.

**GREAT NORTHERN.**—This company is spending \$1,360,000 on a rail laying and ballasting program on its main lines in Minnesota, North Dakota and Montana. The above amount includes a capital expenditure of \$300,000.

**LOUISVILLE & NASHVILLE.**—A contract has been awarded to Fairbanks, Morse & Co., Chicago, for the construction of a reinforced concrete locomotive coaling plant at Nashville, Tenn. The coaling station, which will be of the direct coaling type operated by a push-button control from the locomotive tender, will have an elevating capacity of 90 tons of coal an hour.

**NEW YORK, NEW HAVEN & HARTFORD.**—A contract for the reconstruction of an underpass at Buckland, Conn., authorization for which was reported in the *Railway Age* of May 21, has been awarded by the New Haven to the Lathrop & Shea Company, New Haven, Conn.

**PUBLIC SERVICE COMMISSION OF NEW YORK.**—The New York Public Service Commission has approved plans and an estimate of cost amounting to just over \$100,000 for the elimination of the Main and Seneca (Union) street grade crossings of the Pennsylvania and the Main and Cross street crossings of the Lehigh Valley, all at Stanley (Seneca), N. Y. The commission has also closed proceedings for elimination of the North

Union street crossing of the Pennsylvania in Olean, N. Y.; and has amended its order for the elimination of the Union road and Walden avenue grade crossings of the New York Central in Cheektowaga, N. Y. The amended order provides for closing the Walden avenue crossing and diverting traffic to a highway to be constructed north of the railroad, and for carrying Union road under the railroad.

**SOUTHERN PACIFIC.**—The California State Highway Commission contemplates certain highway revisions involving the construction of a highway subway under the tracks of this company at Goshen, Cal.

## Financial

**ARKANSAS.—R.F.C. Loan.**—This company has applied to the Interstate Commerce Commission and the Reconstruction Finance Corporation for a loan of \$30,000.

**ATLANTIC COAST LINE.—Omits Dividend.**—Directors of this company have omitted the semi-annual dividend due at this time. At the last dividend meeting the annual rate was reduced from \$7 to \$4.

**BALTIMORE & OHIO.—Notes.**—The Interstate Commerce Commission has authorized this company to issue \$17,500,000 of secured gold notes for the purpose of retiring a like amount of notes maturing on August 10 and to pledge under a trust indenture as part of the collateral security for such notes \$17,500,000 of refunding and general mortgage 6 per cent bonds, Series E.

**CINCINNATI UNION TERMINAL.—Securities.**—The Interstate Commerce Commission has authorized this company to issue and reissue \$5,000,000 of short-term promissory notes secured by bonds which are guaranteed by the seven proprietary railway companies.

**GEORGIA SOUTHWESTERN & GULF.—R.F.C. Loan.**—This company has applied to the Interstate Commerce Commission and the Reconstruction Finance Corporation for a loan of \$60,000.

**GREAT NORTHERN.—Annual Report.**—The 1931 annual report of this company shows net income after interest and other charges of \$5,325,907, as compared with net income of \$18,036,748 in 1930. Selected items from the Income Statement follow:

	1931	1930	Increase or Decrease
Average Mileage Operated	8,357.32	8,366.63	— 9.31
OPERATING RAILWAY REVENUES	\$77,087,455	\$104,996,076	— \$27,908,622
TOTAL OPERATING EXPENSES	55,285,953	72,565,878	— 17,279,925
NET REVENUE FROM OPERATIONS	21,801,501	32,430,198	— 10,628,697
Railway tax accruals	7,179,028	8,712,598	— 1,533,569

	1931	1930	Increase or Decrease
Railway operating income	14,612,579	23,707,755	— 9,095,176
Equipment rents, Net Dr.	1,454,238	1,347,804	+ 106,434
Joint facility rents, Net Dr.	488,920	447,443	+ 41,477
NET RAILWAY OPERATING INCOME	12,669,420	21,912,508	— 9,243,088
Non-operating income	12,110,637	15,528,317	— 3,417,681
GROSS INCOME	24,780,057	37,440,826	— 12,660,769
Rent for leased roads	151	171	— 20
Interest on funded debt	18,992,022	18,641,072	+ 350,950
TOTAL DEDUCTIONS FROM GROSS INCOME	19,454,150	19,404,077	+ 50,073
NET INCOME	5,325,907	18,036,748	— 20,710,842

**HARTWELL.—R.F.C. Loan.**—This company has applied to the Interstate Commerce Commission and the Reconstruction Finance Corporation for a loan of \$21,000 to provide funds for maintenance work and current indebtedness.

**LOUISVILLE & NASHVILLE.—Omits Dividend.**—Directors of this company have omitted the semi-annual dividend due at this time. At the last dividend meeting \$2 was voted and, a year ago, \$2.50.

**MARYLAND & DELAWARE SEACOAST.—Acquisition.**—This company has applied to the Interstate Commerce Commission for authority to acquire and operate the property of the Maryland & Delaware Coast, which it has acquired at foreclosure sale.

**MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—New Directors.**—A. E. Wallace, vice-president and general manager of the Soo Line, and E. W. Decker, president of the Northwestern National bank of Minneapolis, Minn., were elected directors of this company on May 17.

**MISSOURI PACIFIC.—R.F.C. Loan.**—This company has reduced the amount of its application for a loan from the Reconstruction Finance Corporation by \$500,000 which it had asked by May 21, stating that its cash balance and requirements were such that the amount would not be presently required. The company originally applied for \$23,250,000 and the Interstate Commerce Commission has approved three loans to it amounting to \$17,100,000.

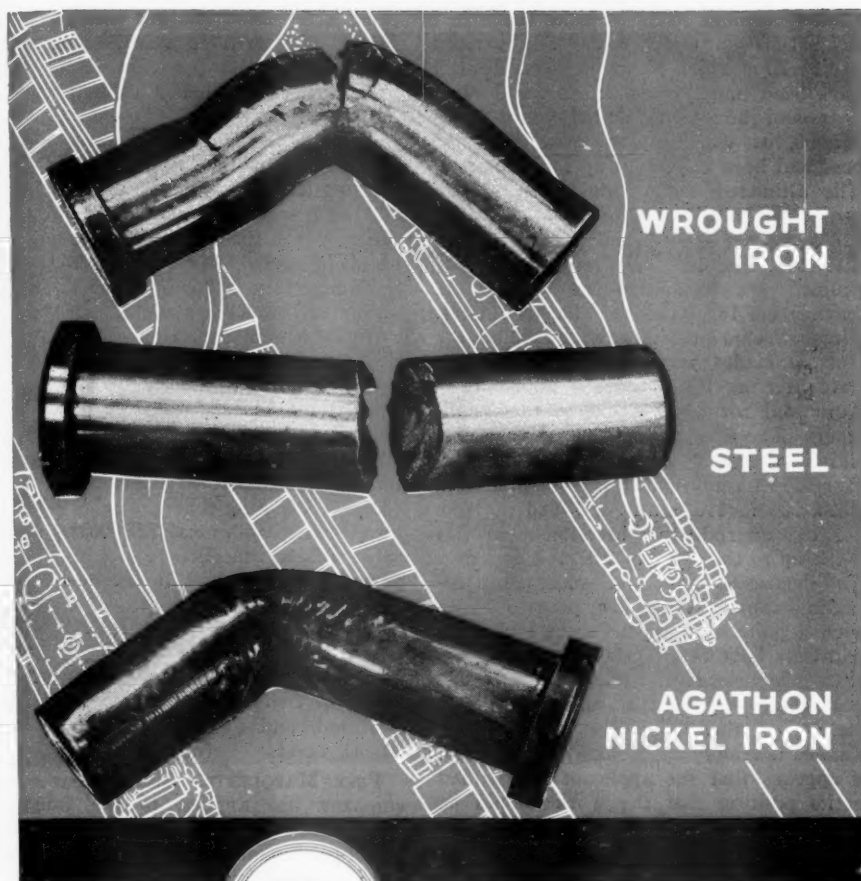
**NELSONVILLE-ATHENS ELECTRIC.—R.F.C. Loan.**—This company has applied to the Interstate Commerce Commission and the Reconstruction Finance Corporation for a loan of \$115,000.

**NORTHERN PACIFIC.—Annual Report.**—The 1931 annual report of this company shows net income after interest and other charges of \$8,902,336, as compared with net income of \$17,228,716 in 1930. Selected items from the Income Statement follow:

	1931	1930	Increase or Decrease
Average Mileage Operated...	6,780.70	6,789.22	— 8.52

Continued on next left-hand page





These pins all have the same surface hardness and case depth. They were tested on a V-block under a steam hammer. Note toughness of Agathon Nickel Iron.

## LOWER THE COST OF CASE-HARDENED PARTS

**AGATHON NICKEL IRON gives a tougher core at a saving in cost**

The metallurgist has revolutionized the characteristics of the old familiar iron. « For case-hardened pins and bushings in railroad service, Republic Steel Corporation has developed Agathon Nickel Iron—the iron with a tougher core. « Uniform in composition all the way through and without slag spots or seams, this alloy iron gives a fine case and an unusually tough core. « Warping is almost negligible. Pins and bushings may be machined to size, polished, carburized and quenched from the pot without spoiling the surface or smoothness. The finished cost of case-hardened parts made of Agathon Nickel Iron is lower than ordinary iron. « Try this modern alloy iron for all case-hardened pins and bushings.

Toncan Iron Boiler Tubes, Pipe, Plates, Culverts, Rivets, Staybolts, Tender Plates and Firebox Sheets • Sheets and Strip for special railroad purposes • Agathon Alloy Steels for Locomotive Parts • Agathon Engine Bolt Steel • Nitralloy Agathon Iron for Pins and Bushings • Agathon

Staybolt Iron • Climax Steel Staybolts • Upson Bolts and Nuts • Track Material, Maney Guard Rail Assemblies • Enduro Stainless Steel for dining car equipment, for refrigeration cars and for firebox sheets Agathon Nickel Forging Steel (20-27 Carbon)



CENTRAL ALLOY DIVISION  
**REPUBLIC STEEL CORPORATION**  
 MASSILLON OHIO

	1931	1930	Increase or Decrease
<b>RAILWAY OPERATING REVENUES</b>	\$62,312,087	\$80,642,412	—\$18,330,326
Maintenance of way .....	7,760,727	9,884,413	— 2,123,686
Maintenance of equip- ment .....	14,028,210	17,053,769	— 3,025,559
Transporta- tion .....	23,761,092	28,589,123	— 4,828,031
<b>TOTAL OP- ERATING EX- PENSES</b>	52,082,847	62,734,420	— 10,651,573
Operating ratio .....	83.58	77.79	+ 5.79
<b>NET REV- ENUE FROM OPERATIONS</b>	10,229,240	17,907,992	— 7,678,753
Railway tax accruals .....	6,816,387	7,480,778	— 664,390
Railway op- erating in- come .....	3,402,780	10,408,818	— 7,006,038
Equipment rents—Net Joint facil- ity rents— Net .....	922,217	1,421,760	— 499,544
	2,476,423	2,462,635	+ 13,788
<b>NET RAIL- WAY OPER- ATING IN- COME</b>	6,801,420	14,293,213	— 7,491,793
Non-operat- ing income .....	16,852,586	17,984,869	— 1,132,282
<b>GROSS IN- COME</b>	23,654,006	32,278,082	— 8,624,076
Rent for leased roads .....	51,419	51,419	
Interest on funded debt .....	14,391,742	14,500,227	— 108,486
<b>TOTAL FIXED CHARGES</b>	14,503,882	14,752,464	— 248,582
<b>NET IN- COME</b>	8,902,336	17,228,716	— 8,326,380

**PENNSYLVANIA.—Unification of Sub-  
sidiaries.**—In connection with a plan for  
closer integration of subsidiary proper-  
ties, this company has applied to the In-  
terstate Commerce Commission for au-  
thority to purchase and operate the prop-  
erties of the Englewood Connecting, the  
Indianapolis & Frankfort, the Ohio Con-  
necting, the South Chicago & Southern  
and the Wheeling Terminal. The Pitts-  
burgh, Cincinnati, Chicago & St. Louis  
asked authority to acquire control of these  
companies and to issue \$13,323,348 of  
stock in exchange for their stock.

**PENNSYLVANIA.—R.F.C. Loan Approved.**  
—The Interstate Commerce Commission  
on May 18 approved a loan of \$27,500,000  
by the Reconstruction Finance Corpora-  
tion to this company, to be available on  
October 1, to finance in part the electri-  
fication of the line between New York  
and Washington and the construction of  
improvements at Newark, Philadelphia,  
Baltimore and other points for which  
the estimated expenditures for 1932  
amount to \$68,176,000. The company had  
originally applied on March 10 for a loan  
of \$55,000,000, stating that it would  
furnish the additional \$13,176,000 required,  
but after a long delay and repeated re-  
quests as to whether any action was being  
taken in the matter it filed an amended  
application on May 12 saying that at the  
request of the Finance Corporation and  
in view of changed conditions it was will-  
ing to provide by the sale of securities  
through banking and investment channels  
for half the amount asked, upon the  
understanding that the corporation def-

initely commit itself to make the loan of  
\$27,500,000 on October 1. The various  
projects for which the money was desired  
have been under construction for several  
years and the total estimated cost is \$264,-  
735,900, of which approximately 40 per  
cent had been expended up to January 1.  
The estimated cost of the electrification  
project is \$110,443,251, of which \$26,257,-  
327 had been spent when the application  
was filed. The 1932 requirements for this  
project are estimated at \$47,000,000,  
leaving \$37,185,924 to be financed later.  
The entire project is now scheduled for  
completion by July 1, 1933. Contracts  
have been let for practically all roadway  
work and for 83 per cent of the equip-  
ment. The company estimated that ces-  
sation of work would burden it with  
carrying charges which would amount to  
\$3,205,000 in 1932 and \$3,930,000 in 1933,  
for the unproductive investment in this  
work up to the present time and expenses  
for disorganization and subsequent re-  
organization. Work has progressed to  
such a point and expenditures and com-  
mitments have been such, the report said,  
that "the desirability from an economic  
standpoint of at least substantial com-  
pletion of these projects as originally  
planned is readily apparent. On the whole  
it appears that the applicant is justified  
in its position that the work should be  
continued on the improvements which are  
in the course of construction, in view  
of the amount of work which has already  
been done, and in order that it may take  
advantage of the present low prices of  
both labor and material, and furnish em-  
ployment to various building trades in  
construction work and in the manufac-  
ture of material and products entering  
into the projects. It should be under-  
stood that our investigation has not been  
such as to justify us in expressing an  
opinion as to the basic merits of the  
original projects or of the contracts which  
have been entered into." As security for  
the loan the company had offered \$17,-  
500,000 par value of common stock of  
the Pittsburgh, Fort Wayne & Chicago  
and \$23,700,000 par value of stock of the  
Pittsburgh, Cincinnati, Chicago & St.  
Louis, but the commission said that the  
collateral should not consist of stock  
alone but should be diversified so as to  
include both bonds and stock. Accord-  
ingly it required that the loan be secured  
by the pledge of guaranteed bonds of  
leased lines, \$5,280,000 of P. C. C. & St. L.  
general mortgage 5 per cent bonds, and  
\$11,744,000 of general mortgage 5 per  
cent bonds of the Philadelphia, Baltimore  
& Washington, together with \$18,500,000  
of common stock of the Fort Wayne  
company. A condition also was attached  
that before any advance on the loan is  
made the company should agree not to  
exercise its voting rights to create any  
mortgage lien upon the properties of the  
Fort Wayne during the life of the loan.  
The report points out that from 1922 to  
1930 the average annual earnings of the  
Pennsylvania were 1.89 times its fixed  
charges and, after payment of fixed  
charges, averaged 12.48 per cent on the  
outstanding stock. In 1931 the net in-

come after fixed charges was only \$19,-  
941,499 but for 1932, based on estimated  
gross revenue 11 per cent less than in  
1931, the company has estimated a net  
income of \$21,745,000.

On May 25 the commission made public  
a letter from the Pennsylvania to the  
Reconstruction Finance Corporation  
making a further amendment to its appli-  
cation to ask that the amount of the loan  
be made available in monthly instalments  
beginning June 1, "owing to changed con-  
ditions which have made it impracticable  
to make a public offering of securities at  
this time at a reasonable cost," so that  
the work may proceed. The company  
asked that the \$27,500,000 be made avail-  
able as follows: June 1, \$5,000,000; July  
1, \$9,000,000; August 1, \$4,500,000; Sep-  
tember 1, \$4,000,000; and October 1,  
\$5,000,000, stating that it would undertake  
to raise the additional \$27,500,000 by the  
sale of securities before the end of the  
year if business and financial conditions  
make it possible to do so on reasonable  
terms. In place of the P. B. & W. bonds  
asked by the commission as collateral it  
offered \$11,706,000 of first mortgage 5  
per cent bonds of the New York Bay  
Railroad, and \$2,500,000 of P. C. C. &  
St. L. bonds.

**PERE MARQUETTE.—R.F.C. Loan.**—This  
company has applied to the Interstate  
Commerce Commission and the Recon-  
struction Finance Corporation for a loan  
of \$3,000,000 to retire an issue of 4½  
per cent bonds maturing on August 1.  
It has also applied to the commission for  
authority to issue notes for the amount  
of the loan.

**SOUTHERN PACIFIC.—I.C.C. Consolida-  
tion Plan Modified.**—The Interstate Com-  
merce Commission has modified its con-  
solidation plan so as to assign the St.  
Louis Southwestern and the Paris & Mt.  
Pleasant to System No. 16.—Southern  
Pacific, instead of System No. 10—Illi-  
nois Central. The commission recently  
authorized the Southern Pacific to acquire  
control of the Cotton Belt on the condi-  
tion, among others, that it agree to  
acquire or operate the lines of the Paris  
& Mt. Pleasant and the Waco, Beaumont,  
Trinity & Sabine if the commission should  
later find that it should do so. The  
Southern Pacific has filed its acceptance  
of the condition. The Waco line was  
already assigned to the Southern Pacific  
system.

**TERMINAL RAILROAD ASSOCIATION OF  
ST. LOUIS.—Valuation.**—The Interstate  
Commerce Commission, in a final valu-  
ation report as of 1919, finds the value  
for rate-making purposes of the property  
owned and used for common-carrier  
purposes to be \$19,232,507, while the value  
of the property used but not owned was  
placed at \$15,378,140.

**UNION PACIFIC.—Unification Plan.**—  
This company has applied to the Inter-  
state Commerce Commission for author-  
ity to lease the properties of the Oregon  
Short Line, the Oregon - Washington  
Railroad & Navigation Company, the Los  
Angeles & Salt Lake and the St. Joseph  
& Grand Island, under leases from year

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## On the Most Powerful Locomotives



**C**CROSSHEAD Shoes made of HUNT-SPILLER *Air Furnace* GUN IRON will be found on many of the most modern and powerful locomotives in the country.

It is significant that the piston thrusts developed by some of these locomotives range as high as 160,000 lb.

The resistance of HUNT-SPILLER *Air Furnace* GUN IRON to frictional wear is a big factor in the prevention of those disastrous crosshead pounds which shorten the service life of many parts underneath the boiler.

Records show a substantial saving in the round-house maintenance of guides, crossheads, wrist pins, rod bearings, piston packing, etc.

*A few test installations will show the way to big savings.*

**HUNT-SPILLER MFG. CORPORATION**  
J.G. Platt, Pres. & Gen. Mgr. V.W. Ellet, Vice-President.

Office & Works

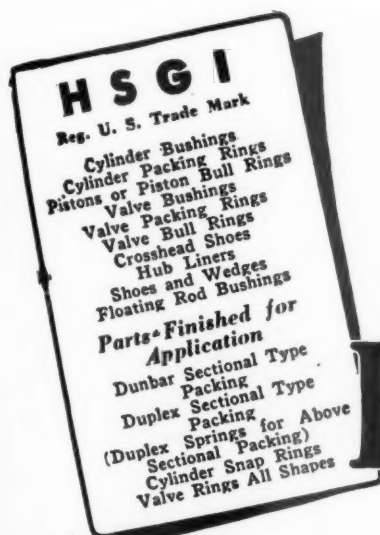
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# HUNT-SPILLER GUN IRON

*Air Furnace*

to year unless terminated by either party on three months' notice. The Union Pacific now owns practically all the stock of the various companies and they are now operated as a single system.

### Dividends Declared

Atlantic Coast Line.—Dividend omitted.  
Bangor & Aroostook.—Common, 50c, quarterly; Preferred, \$1.75, quarterly, both payable July 1 to holders of record May 31.  
Chestnut Hill.—75c, quarterly, payable June 4 to holders of record May 20.

Consolidated Railroad of Cuba.—6 Per Cent Cumulative Preferred, dividend omitted.  
Illinois Central.—Leased Lines, 2 per cent, semi-annually, payable July 1 to holders of record June 17.

Kansas Oklahoma & Gulf.—Series A 6 Per Cent Cumulative Preferred, 3 per cent, semi-annually; Series B 6 Per Cent Non-cumulative Preferred, 3 per cent, semi-annually; Series C 6 Per Cent Non-cumulative Preferred, 1½ per cent, semi-annually, all payable June 1 to holders of record May 25.

Louisville & Nashville.—Dividend omitted.  
Philadelphia, Germantown & Norristown.—1½ per cent, quarterly, payable June 4 to holders of record May 20.

Pittsburgh, Youngstown & Ashtabula.—Preferred, 1¾ per cent, payable June 1 to holders of record May 20.

Southern Pacific.—Common dividend omitted.

### Average Prices of Stocks and of Bonds

	May 24	Last week	Last year
Average price of 20 representative railway stocks . . .	13.95	15.55	65.57
Average price of 20 representative railway bonds . . .	50.84	52.99	91.38

## Railway Officers

### FINANCIAL, LEGAL AND ACCOUNTING

**L. L. Prater**, assistant auditor of the Denver & Salt Lake, has been elected auditor, with headquarters as before at Denver, Colo., to succeed **S. S. Meyer**, deceased.

### OPERATING

**J. C. Albright**, assistant to the general manager of the Oregon-Washington Railroad & Navigation Co., has been appointed trainmaster on the Oregon divi-

sion, with headquarters as before at Portland, Ore.

### TRAFFIC

**W. B. Hill**, assistant general freight agent of the Bangor & Aroostook, has been promoted to general freight agent, succeeding **George E. Wicks**, retired.

**Mrs. Jane Ogle** has been appointed special passenger traffic representative of the Central of New Jersey, with headquarters at New York, in connection with that road's Sandy Hook steamers and its Atlantic City train services.

**R. B. Kinkaid**, assistant general freight agent of the Baltimore & Ohio at Cincinnati, Ohio, has been promoted to general freight agent, with headquarters at Chicago, succeeding **E. B. Tullis**, deceased. **J. C. McGohan**, assistant general freight agent at Cincinnati, succeeds Mr. Kinkaid, and **H. M. Bauer**, district freight agent at Cincinnati, has been promoted to assistant general freight agent to succeed Mr. McGohan.

### ENGINEERING AND SIGNALING

**C. B. Clegg**, supervisor of water service of the Western lines of the Atchison, Topeka & Santa Fe, with headquarters at Amarillo, Tex., has also been placed in charge of heating facilities on these lines, with the title of water service and heating engineer. **D. M. Bisbee**, heating engineer, at Amarillo, will retire on June 1, and the position of heating engineer will be abolished.

**E. E. Moberly**, division engineer on the Union Pacific, with headquarters at Marysville, Kan., has been transferred to the Utah division of the Oregon Short Line, with headquarters at Pocatello, Idaho, succeeding **M. H. Brown, Jr.**, who has been transferred to the Idaho division, with the same headquarters. Mr. Brown succeeds **L. W. Althof**, who has been assigned to other duties. Both

\* \* \* \*

roads are units of the Union Pacific System.

### MOTOR TRANSPORT

**Harry B. Barnes**, superintendent of the Interstate Transit Lines (owned jointly by the Union Pacific and the Chicago & North Western), at Kansas City, Mo., has been appointed to the same position on the Spokane division of the Union Pacific Stages, Inc., with headquarters at Spokane, Wash., succeeding **R. A. Theis**.

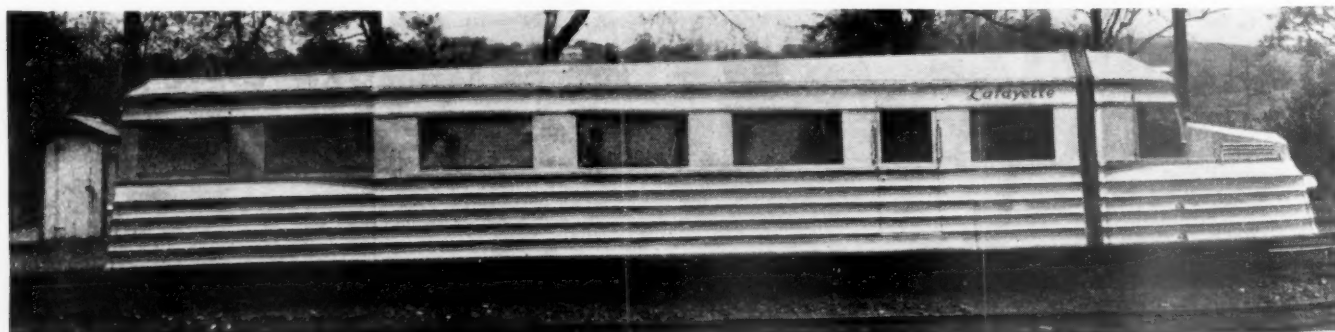
### OBITUARY

**Judge Frank M. Angellotti**, general counsel of the Western Pacific, with headquarters at San Francisco, Cal., died at that point on May 23.

**William J. Smith**, architect for the Gulf, Colorado & Santa Fe, with headquarters at Galveston, Tex., died on May 13 at that point after a long illness.

**George A. Walton**, general passenger agent of the Eastern lines of the Canadian Pacific, died on May 18, while on board the C. P. R. Steamship Empress of Australia, en route for England. Mr. Walton was born in Montreal in 1881, and entered the service of the Canadian Pacific as a clerk in the passenger department at Winnipeg, Man., in 1901. After advancing through various positions, he became, in 1911, general agent at Chicago. In 1916, he was appointed general passenger agent at Winnipeg, and in 1925, he was appointed to serve as general passenger agent of the Eastern lines with headquarters at Montreal, Que., which position he held until his death.

**FLOW OF WATER.**—This is the title of a new Armco engineering bulletin, issued by the American Rolling Mill Company, Middletown, Ohio, which contains information and mathematical data regarding the flow of water in Armco spiral-welded pipe. Tables giving the loss of head per 1,000 ft. of spiral-welded pipe ranging from 6 to 30 in. in diameter for various discharges are a feature of the bulletin.



The "Lafayette," Rubber-tired, Stainless Steel, Streamlined Rail Car Built by the Edward G. Budd Manufacturing Company for Service in France

This streamlined, pneumatic-tired rail car, embodying the latest improvements of American and French engineers in this new type of rail vehicle, has recently been completed by the Edward G. Budd Manufacturing Company, Philadelphia, Pa., for Michelin & Company, of France. It was accepted for service on the French State Railways by M. Claudel, French ambassador, on May 16. Built of stainless steel by the Budd system of "shot" welding, its distinguishing features, in addition to its rubber tires and streamline design, are its light weight and low center of gravity. Its principal strength is in the roof, from which the car's weight is suspended. It weighs approximately 11,000 lbs., seats 30 passengers, travels 60 m. p. h., is powered by a Panhard motor, and may be operated at an exceptionally low cost per passenger mile. American railways are also interested in this new development, the Budd Company having already sold one similar vehicle to the Reading and a double unit to the Pennsylvania.